

JPRS-EEI-84-131

5 December 1984

East Europe Report

ECONOMIC AND INDUSTRIAL AFFAIRS



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5 December 1984

EAST EUROPE REPORT

ECONOMIC AND INDUSTRIAL AFFAIRS

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INTERNATIONAL AFFAIRS

POLISH MINISTER ON EFFORTS TO BOOST TRADE WITH USSR

Warsaw RZECZPOSPOLITA in Polish 22 Oct 84 pp 1, 2

[Interview with Tadeusz Nestorowicz, minister of foreign trade, by Jan Cipiur; date, place not given]

[Excerpts] [Question] How would you briefly characterize Polish-Soviet economic cooperation in the current year and in the near future?

[Answer] The trade turnover will amount this year to about 11 billion rubles. The predominance of imports from the USSR over Polish export will continue to be maintained, amounting to about 600 million rubles. The predominance of import over export means that we are running into debt to the USSR. At present our debt to this partner amounts to about 3.7 billion rubles. Due to this, the production and market reserves of our country have increased by this very amount. The Soviet Union therefore helps in a great measure the process of uplifting the Polish economy. This means giving it some breathing room and time for the consolidation of forces.

The present turnover level cannot be defined as the optimum one. For many years we occupied the second place, after the GDR, in USSR turnover with socialist countries. At present we rank fourth, primarily due to a decline in our exports. Therefore, our task for the upcoming years is to raise the level of our cooperation. If we want to buy more from the USSR, and we do, we must export more, also mindful of the need to pay off our debt. We attribute special importance to the further development of specialized and cooperative connections between our countries and to joint activities stimulating scientific and technological progress, which is also an essential factor in the increase of trade exchange. An important role in shaping the directions and forms of economic cooperation and goods exchange between the PRL and USSR will be played by direct contact of production enterprises from both countries.

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INTERNATIONAL AFFAIRS

POLISH COMMISSION RATES TRADE WITH EAST, WEST

Warsaw RZECZPOSPOLITA in Polish 19 Oct 84 pp 1, 5

[Article by Tomasz Bartoszewicz: "Imports Aid Production"]

[Text] At the latest session of the Commission for Coordination of Economic and Scientific-Technical Cooperation with Foreign Countries, held on 18 October 1984, the results achieved in foreign trade during the past 9 months were appraised.

The commission chairman, Deputy Prime Minister Janusz Obodowski, emphasized that the supply of the national economy and market with imported goods was improved. The basic part of imports from both payments areas consisted of purchases for production needs. They were, in the case of payments area I, 15.5 percent higher than a year ago, and in the case of payments area II as much as 36.7 percent higher. Imports for the market's needs were also higher, by 13.0 percent from payments area I countries, and by 34.3 percent from countries with which we settle in free foreign exchange. The improvement in the import supplies should make for a faster increase of production in many fields of the national economy.

The commission found out that we are maintaining a good rate of implementation of the tasks of the Central Annual Plan [CPR] in dealing with socialist countries. The debit balance in operations with those countries, financed chiefly by credits granted by the USSR, is somewhat lower than the planned one. A positive fact is the high rate of progress in consumer goods import from the CEMA countries: during the past 9 months 80 percent of deliveries earmarked for the current year were imported. This makes for an improvement in the supply especially of certain industrial articles in short supply.

A great effort was needed to achieve a credit balance in dealings with payments area II countries in the amount of over 1.2 billion dollars. This is all the more essential since we still have great difficulties in the export of articles of the electrical engineering industry, which is lower than in the past year. An additional difficulty is the unfavorable price relations in the world markets. Perturbations are also being caused by a constant rise in the dollar exchange rate in

relation to the other currencies, in which a substantial part of settlements in our foreign trade is being carried out. This causes payments from exports to the capitalist countries to be shaped in dollar terms below the CPR assumptions.

The commission took cognizance of the results of the activities in foreign trade during the 9 months of 1984, taking note of dangers resulting from the nonfulfillment of tasks in the area of the export of products of the electrical engineering industry.

In connection with unfavorable price tendencies persisting in dealings in both payment areas, the commission put the minister of foreign trade under obligation to take steps to improve price relations especially with regard to the export of articles of the light and food industries. The commission has also obligated the minister of foreign trade to calculate together with the Central Office of Statistics the efficiency of imports which should be brought about using the appropriate incentive systems in the foreign trade enterprises.

Also discussed was the situation in building industry exports. This is a highly important area of economic cooperation with foreign countries, due to which, for example in the CEMA countries, the foreign exchange necessary for financing foreign tourism is being worked out. As Deputy Prime Minister J. Obodowski emphasized, the 8,500 Polish building workers who implement contracts in Hungary earn for the country the foreign exchange needed to permit travel to that country of 700,000 tourists annually.

In the discussion, the need to preserve and in some cases increase exports of the building and assembly services in 1986-1990 was pointed out, in connection, among other things, with the so-called raw-material agreement being concluded with the USSR. With regard to this, the commission has constituted a team whose work will be directed by Deputy Chairman of the Council of Ministers Planning Commission Stanislaw Dlugosz, which will work out the conception of a further expansion of the building industry exports.

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LONG-RANGE ENERGY POLICY VIEWED

Budapest HETI VILAGGAZDASAG in Hungarian No 39, 29 Sep 84 pp 34-36

[Article by Istvan Szergenyi: "Energy Program"]

[Text] The press reported recently that the second, 440 megawatt reactor block of the Paks Nuclear Power Plant has been started up and an official decision was also made recently about continuing to build the nuclear power plant after the fourth block is started up in 1987. This latter is part of a long-range energy policy plan--extending to the turn of the millennium--now being prepared by the National Planning Office.

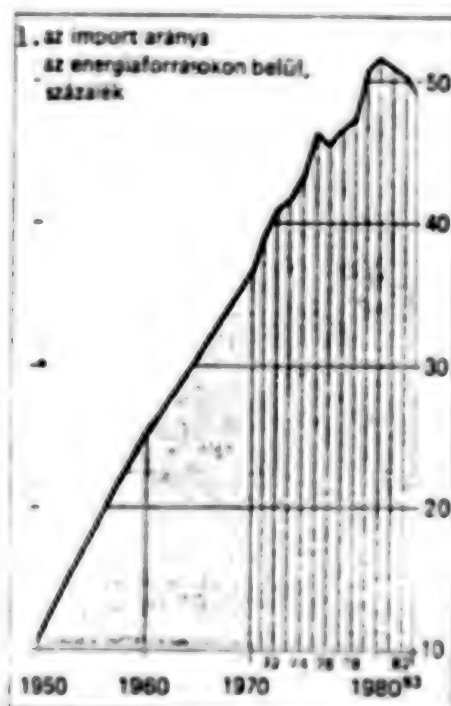
Global Energy Situation

Due to the spiraling effect that the two oil price explosions and the oil price increases had on the other energy sources all countries with foresight try to moderate their energy dependence and energy requirements. Thus, for example, the resolutions of the Common Market's Council of Ministers--on demands from the European Parliament--defined the basic principles of the longer range energy policy for their member countries. They aim among other things to continuously decrease the energy demand, decrease Western Europe's energy dependence to less than 50 percent by the mid-1980s, cut back the ratio of oil in the energy balance of the countries, and in electrical energy production increase the combined weight of coal and nuclear energy.

Expanding the view of the world to even broader horizons, from OECD's [Organization for Economic Cooperation and Development] (an economic organization consisting of 24, mostly developed capitalist countries) and the World Bank's prognoses it seems probable that the world's total energy demand will, in comparison with 1980 (oil equivalent of approximately 7 billion tons), increase by about 50 percent by the year 2000 and at the same time the energy utilization structures will change. According to this, the share of petroleum may decrease by as much as 10 percent within the energy equilibrium (which in world-wide average means a decline to 34 percent by the turn of the millennium), and the share of natural gas will be practically stabilized in the vicinity of a one-fifth ratio. The share of solid fuels--in the approximately one-fifth area--will slightly increase, but nuclear energy's share may increase significantly, from 2 to 10 percent.

Hungary's wealth of energy sources is relatively modest: while our population is nearly 0.25 percent of the world's population, our known wealth of fossil energy sources (coal, petroleum, natural gas) is barely over 0.1 percent of the world's proven reserves. This fact plus the country's increasing energy demand has in recent decades led to Hungary importing more energy in 1979—in terms of heating value—than produced domestically. The tendency of increasing dependence on the foreign market broke in 1980: due to the effect of the world market price increases and the domestic frugality measures brought on in their wake the domestic energy sources again prevail among our energy sources.

Development of Hungary's Energy Dependence, in percentages



Key: 1. Ratio of import within the energy sources, percentage

It can be attributed to the slowed-down domestic economic growth, the price increases and to a significant extent to the results of energy management that since 1978 the country's total yearly energy consumption has stabilized at the level of approximately 30 million tons of oil equivalent. (In the interest of being able to add them, it is customary to consider the various energy sources either according to their physical energy content (joule) or calculating them in terms of quantities of one kind of energy source on the basis of their heating values. For practical calculations it has been found to work out well to give each type of energy source as how much oil—or coal—it is worth. This is the so-called oil or coal equivalent value.) This, naturally, is far from

meaning that this phenomenon must be considered final, since we see from the international comparisons that compared to countries with similar level of development, in Hungary the total per capita energy consumption and particularly the electrical energy consumption is relatively low. The comparison used widely also in international statistics according to which we compare energy consumption to the value of products produced with its help, says more than this. From that we see that the Hungarian economy's energy demand seems favorably low only in comparison with the other CEMA countries, but it is high in comparison with the developed capitalist countries.

In any case the economic planners must take into consideration that even over the long range the Hungarian economy will have to import about 40-50 percent of its energy every year. So this means that at least half of the requirements will have to be satisfied from domestic sources. When the planners are weighing what amount of increase in energy demand they should specify as a reachable goal or one to be reached, obviously they can only think within limitations: they must consider as upper limit the amount of energy which can be produced and imported with reasonable cost, and as lower limit the energy demand required by competitive production and the consumption influenced by the standard of living.

Consumption of Primary Energy Sources in the European Countries in 1980
(calculated in terms of hard coal equivalent)

Country	Per capita consumption, kg
GDR	7 408
Czechoslovakia	6 482
Norway	6 434
Holland	6 183
Belgium	6 037
FRC	5 727
Bulgaria	5 678
Soviet Union	5 595
Poland	5 590
Sweden	5 269
Finland	5 135
Great Britain	4 835
Rumania	4 593
France	4 351
Austria	4 160
Hungary	3 850
Switzerland	3 708
Italy	3 318
Spain	2 530
Greece	2 137
Yugoslavia	2 049
Portugal	1 097

Source: International Statistical Almanac, KSH [Central Statistical Office], 1983]

As far as production is concerned, in the last 10-15 years the unit annual growth rate of energy consumption measured in terms of heating value has been joined by an annual 1-1.5 unit production growth rate, calculated in value. According to our current thoughts our energy demand must decrease in the last two decades of this century in the interest of accompanying the unit growth in energy consumption by 2-3 times as high a growth rate of the national income as before.

Of course this will not happen just because of pious desires. Among the necessary conditions is that during the course of transforming the economy's structure the production of less energy-demanding products increase at a relatively faster pace, that more modern technologies spread wider in production as a whole, that there are more low consumption vehicles in transportation, that the construction industry change-over to producing materials which insulate well, that the conditions should exist for energy saving in the households, and that the economic operating environment should in general force the enterprises to practice rational material and energy consumption.

Based on today's calculations the Hungarian economy in the last 20 years of this century will be able to demonstrate a 2-3 percent annual growth rate, and thus--according to the things said above--we must prepare ourselves for an annual increase of about 1 percent in total energy consumption. At the present time 29-30 percent of all energy in Hungary is used in the form of electrical energy. Calculations of the planners project that electrical energy consumption will grow faster than the total--according to the past and international tendencies--by about 3 percent per year, while energy consumption in the form of other than electrical energy will hardly change at all. The share of electrical energy within the total energy consumption may thus reach 35-40 percent by the turn of the millennium.

In view of such changes the numbers for total energy consumption would change by the turn of the millennium as follows: in contrast with the approximately 30 million tons of petroleum equivalent per year at the present, total energy consumption will increase to 37 million tons, while electrical energy consumption will increase from 34.5 billion kilowatt hours per year in 1983 to at least 57 billion kilowatt hours. The fuel for producing the additional electrical energy will be imported nuclear heating elements produced [abroad] from domestic uranium ore and also coal. Thus we will have to increasingly rely on the domestic sources.

The longterm ideas also cover three sub-branches of energy management, the electrical energy industry, coal mining and the hydrocarbon industry. Undoubtedly the construction of electrical power plants will be the area of energy management developments requiring the most money. The 4 blocks, each with 440 megawatt capacity starting up one after the other at the Paks Nuclear Power Plant appear to be sufficient to satisfy the growing electrical energy demands in this decade. The experts are working on the long range power plant construction program: this is supposed to take care of the additional power plants which will have to be added starting with the early 1990s. This program will determine in what sequence the coal-fired and nuclear power plants will follow each other in satisfying the increase in electrical energy demand.

Based on the calculations done so far it seems realistic that--if the conditions of international cooperation are fulfilled--the main direction in the 1990s should be continued and continuous construction of the nuclear power plant. Power plant construction based on the large lignite base may be an alternative --or continuation--of this.

Hungary's Energy Sources in 1983 (in million tons of oil equivalent)

	From Domestic Production	From Import	Total
Coal-type materials*	6.7	2.0	8.7
Liquid hydrocarbons	2.5**	7.3	9.8
Gaseous-state hydrocarbons	5.5	3.3	8.8
Nuclear energy	0.6	--	0.6
Imported electrical energy	--	2.4	2.4
Miscellaneous (mainly firewood)	0.3	--	0.3
Total	15.6	15.0	30.6

* coal, briquette, coke

** including the liquid products of natural gas production

Source: National Planning Office

The long term tasks of deep-mine coal mining and lignite strip mining are becoming outlined to a significant extent in connection with this. Within the framework of decisions made so far and investments in progress, the mines at Markushegy, Nagygyhaza, Many and Lencsehegy will be starting up continuously according to the Eocene Program in order to replace the fields being exhausted, produce coal for the population and partially satisfy the coal demand resulting from the reconstruction of coal-fired power plants. According to the Lias program the reconstruction of mining operations in the Mecsek is proceeding in essence independently of the power plant construction program, and brown coal mines could be opened up in Borsod county or Transdanubia in order to replace the ones being exhausted, primarily to satisfy the population's demand.

The hydrocarbon industry's long-term plans include keeping production on the level. The catalytic cracking plant in Szazhalombatta which started production this year is an important factor in the petroleum processing industry: it converts heating oil to fuel and raw materials for the chemical industry. The so-called viscosity breakdown plant of the Danubian Petroleum Industry Enterprise is now under construction; it will produce light heating oil which is more valuable and can be used in many ways, from heavy heating oil. Further modernization of petroleum processing may be discussed in the early 1990s, depending on how much import petroleum will be available at that time and how large the demands for fuel will be.

The experts are convinced that Hungary--due to its unavoidable dependence on energy import--must seek the possibilities of expanded cooperation with the

CEMA member countries, primarily with the Soviet Union, especially to increase the present approximately 4 billion cubic meter per year natural gas import and--in multilateral cooperation--the way to further construction of the Paks Nuclear Power Plant over the long term.

Taking everything into consideration the concept's planners are convinced that the ratio of energy management investments should be decreased from the present nearly 50 percent level within the industrial investments in the interest of giving more space to long-term competitive investments in the processing industry, since the latter have an important role in helping the economy onto a higher growth path. (Even in the case of the most frugal developments the energy management investments of the next 15 years are measured in several 100 billion forints.)

If the planned developments materialize, a definite change will take place in the country's energy structure. The current oil ratio of one-third is expected to fall to below 25 percent in the energy balance by the turn of the millennium, while the share of the natural gas sources--which is somewhat over one-fourth--will remain practically at today's level. As a consequence of gains made by electrical energy production based on the atom and coal, oil will be gradually replaced by coal and nuclear energy.

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IMPROVING CEMA TRANSPORTATION SYSTEMS DISCUSSED

Prague HOSPODARSKE NOVINY in Czech No 38, 1984 pp 8-9

[Article by Eng Vladimir Blazek, minister of transportation of the CSSR: "From an Aggregation of Individual Parts to an Organ Complex"]

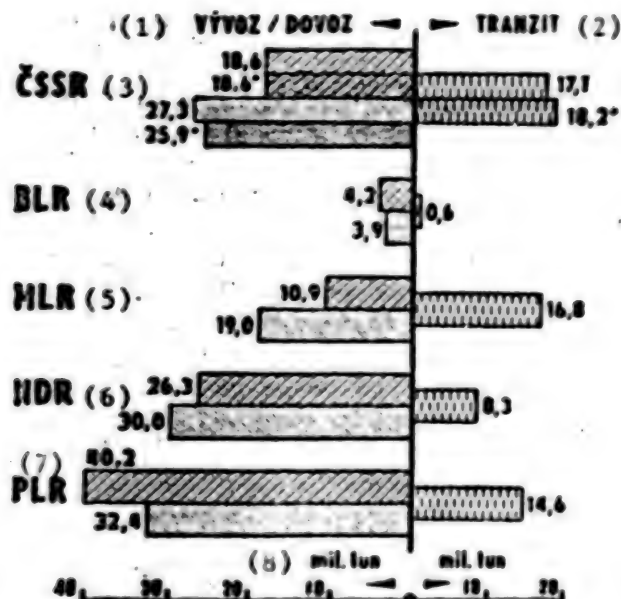
[Text] "The CEMA member countries are implementing agreed-upon measures related to the comprehensive development of mutual transportation links, measures which call for closer coordination of transportation development plans for investments to develop those portions of the transportation infrastructure of these countries in which there is a joint interest, and to increase the throughput capacity of the border railway stations, for improvement in the planning system and the conditions of transportation of goods related to international trade by all modes of transportation, with particular attention devoted to the improvement of conditions of ocean transportation to the Vietnamese Socialist Republic and the Cuban Republic." (From the decree concerning the main directions for the further development and intensification of economic cooperation among the CEMA member countries, issued in Moscow, June 1984.)

The direct connections between the transportation networks of one country and those of neighboring countries gives transportation an international character. This is also the result, however, of the historical development of these networks, which has been influenced by a number of natural, technical and political factors.

This aspect of transportation and its indispensable function, as well as the ever increasing specialization, production cooperation, and division of labor that accompany it, continues to increase in importance. Moreover, the integrational processes now under way between the national economies of the CEMA member countries require that we develop a modern transportation network that is not only efficient enough to provide the smooth performance of transportation services but that also possesses adequate excess capacity to cope with unforeseen fluctuations and imbalances.

From the above it follows that transportation in the CEMA member countries must be developed in a planned way as an integral component of national economic development. Nor is any new construction or the reconstruction of international transportation routes thinkable without the joint efforts of the CEMA countries. The replacement cycle for capital assets in transportation is substantially longer than in other national economic sectors. Combined with its high investment intensiveness, this process places extraordinary demands on the coordination of projection and planning activities.

International Railway Shipments of Goods (exports, imports and transit shipments in 1982 and 1983*)



Key:

- | | |
|--------------------|---------------------|
| 1. Exports/imports | 5. Hungary |
| 2. Transit | 6. GDR |
| 3. CSSR | 7. Poland |
| 4. Bulgaria | 8. Millions of tons |

Source: "Statistical report of the Organization for Railway Cooperation (OSZD) for 1982," Warsaw 1983; "Annual Report of Transportation for 1983," Federal Ministry of Transportation.

Even though we are fully aware of the correctness of the preceding, it should be admitted at the outset that the transportation system of CEMA is currently made up of merely an aggregation of the individual transportation systems of the constituent countries as they have historically developed, and does not really correspond to current economic requirements or the level of integration that has been achieved so far.

Crossroads in Central Europe

The geographic location of Czechoslovakia and the shape of its territory result in several characteristics that put Czechoslovak transportation in a special position.

In terms of both total transported tonnage and overall transportation performance (in relation to territorial size, population and to actual national income) the Czechoslovak transportation system ranks sixth in Europe (after the USSR, the Federal Republic of Germany, France, Great Britain, and Poland), and third place among the European CEMA member countries (after the USSR and Poland). In transportation performance per capita only the USSR is ahead of the CSSR in Europe, and in transportation performance per square kilometer of national territory the CSSR occupies third place in Europe and first place within CEMA.

In terms of the transportation of people, Czechoslovak public transportation is in fourth place both within CEMA (behind the USSR, Poland and the GDR) and in Europe as a whole, since public transportation is relatively less important in nonsocialist countries because of their higher level of passenger car ownership and operation.

The extent of passenger and freight transportation in the CSSR is accompanied by a high use level of the transportation infrastructure, especially the railways. Most of this transportation takes place along the main rail lines which constitute not even 20 percent of the total rail network, meaning that they are being utilized at the upper limits of their capacity. It may be stated that no other rail lines anywhere in Europe are used as much as these two lines in the CSSR.

Because of its geographic location, the Czechoslovak transportation system not only assures the domestic requirements of the Czechoslovak economy but is also an important mechanism of foreign economic and political relationships, as a medium for the transportation of people and goods internationally.

The Czechoslovak transportation system currently handles about 6 percent of the total volume of international transportation of the CEMA countries. The railways handle 72 percent of this share, river transport 4 percent, and highways 20 percent. Czechoslovak railway and highway transport accounts, however, for almost one-fourth (23.4 percent) of the total volume of transit shipments within the territories of the CEMA member countries.

Trade with the USSR is a critical component of the activity of our transportation system. The USSR was the source of 83 percent of our imports in 1982 and received almost 30 percent of our exports. Because of changes that are being instituted in the structure of the materials concerned (more on this later), it has been projected that by 1990 the USSR will account for about 81 percent of our imports and receive about 22 percent of our exports.

Intensification Trends

Intensification efforts by CEMA member countries to increase the effectiveness of utilization of raw material and power resources are providing incentives to introduce technologies that are less consumptive of raw materials and energy. At present in the CEMA member countries considerable attention is being devoted to domestic raw material and energy sources. As a part of the socialist division of labor we are striving to develop production techniques which conserve material inputs, resulting in expanded mutual goods exchange as well as lower weights.

These intensification trends have already been incorporated in projections for the development of transportation in the CEMA countries through the year 2000. For example, it is well known that our primary imports from the Soviet Union are raw materials and fuels and that we export to them primarily finished products. This makes the mutual shipment of goods quite imbalanced in terms of total weight. We anticipate that by the year 2000 that proportion will have declined by one-third, from 1:7.8 to 1:5.3. This will make it possible for our

transportation network to reduce the number of empty runs by railway cars assigned to the transportation of raw materials, but it will also require changes in the rolling stock fleet to accommodate the upcoming changes.

Changes in the structure of mutual goods exchange between the CSSR and other CEMA member countries are to some extent becoming evident only now. Czechoslovak transportation relationships with the CEMA member countries will have to be adapted rapidly to these changes. These adaptations will take the form mostly of qualitative improvements in transportation and shipping operations.

Top Priority: Effective Division of Labor

Through all this the fundamental transportation problem of the CEMA member countries remains, namely assuring the effective distribution of transportation tasks among the numerous modes of transport. This, however, does not alter the fact that railway transportation will remain the major mode of transportation in the international shipment of goods between the CSSR and the CEMA member countries which in turn means that we continue to face the necessity of solving the basic problems of railway transport, because our system today, given its very high load level, is coping with its transportation tasks only with difficulty.

The CSSR is not the only CEMA member country in which selected international rail lines lack adequate carrying capacity. These low capacities are especially evident at certain border stations. The consequences include declining quality of transportation services, unhitching of freight cars or temporary bans on loading, increased travel time for goods, the accumulation of goods in shippers' warehouses and the consequent failure to meet contractual supplier-consumer relationships.

The Long-Range Priority Program for Cooperation with CEMA Countries in Transportation, adopted in 1979, is an important document which looks to improve the transportation infrastructure and gradually develop an integrated transportation system among the CEMA countries.

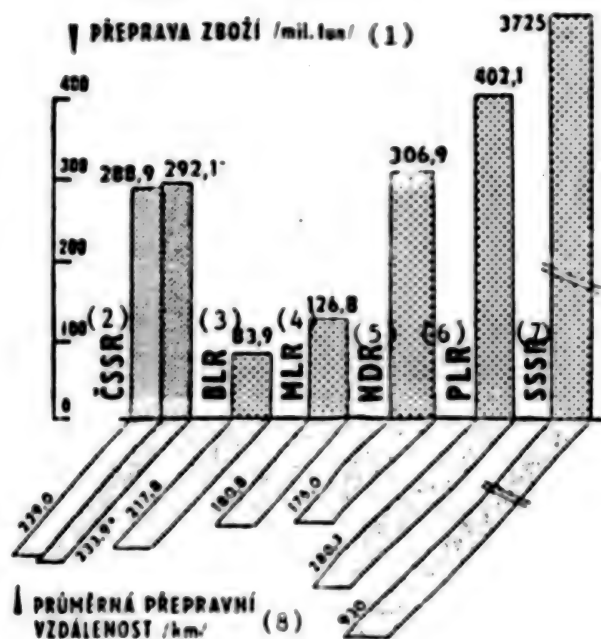
In railway transportation this cooperation is oriented mainly toward the reconstruction and technical upgrading of main international rail lines and the construction of new border transfer points for the railways, or the expansion and modernization of existing facilities.

The agreed-upon measures are aimed mainly at increasing the carrying capacity of existing track, mainly by electrifying it and building automated track and station signaling and safety devices. Also in the works is the construction of additional track segments in the most heavily traveled areas and an improvement in track quality. In some countries programs have begun to be implemented to increase rail line speeds, first to 120 kilometers per hour and then to 160 kilometers per hour.

Within the context of the development of international rail lines, important links are being upgraded in both an east-west and north-south direction. Two such lines cross Czechoslovak territory in the east-west direction and four

lines cross in the north-south direction. This project is, however, very investment-intensive and will be conducted over the long term. For this reason we consider it essential to increase the quality of the division of transportation work through the wider utilization of other modes of transportation in those situations where it is economically advantageous and where the technical capabilities for doing so exist.

Railway Goods Transport and Mean Transported Distance (data from 1982 and 1983*)



Key:

- | | |
|---|---|
| 1. Goods transported (millions of tons) | 5. GDR |
| 2. CSSR | 6. Poland |
| 3. Bulgaria | 7. USSR |
| 4. Hungary | 8. Mean transported distance (kilometers) |

Source: OSZD, Warsaw 1983 and "Annual Report for Transportation for 1983," Federal Ministry of Transportation.

Little Utilized Water Routes

The foregoing implies above all the greater utilization of water transport, which is neither energy- nor materials-intensive while yielding high labor productivity and causing minimal disruption to the environment. Such a development of water transport, however, is dependent on the building of water routes.

From an international viewpoint it is a great shame that waterways available to the CEMA member countries are not linked up into an effective system, which in turn is a major obstacle to the greater use of water transport. The reason that the Danube waterway, the second longest and largest after the Volga, is not adequately utilized is that it has no connections with the industrial centers of the CSSR, GDR and Poland.

Another reason for the low use level of waterways is the lack of loading and unloading equipment at docking facilities and the obsolete nature of the ship fleet. Certain commercial and operational issues remain unresolved and an overall conservative attitude toward the use of water transport is blocking its wider application.

We are fully aware of these shortcomings from previous years and will therefore devote increased attention to waterway development as a component of the international transportation infrastructure. In this regard, this past January the Council for International Economic and Scientific Technical Cooperation adopted a series of measures, among the concrete results of which are actual negotiations with Poland concerning making the Oder River navigable as far as Ostrava. By 1990 preparations are slated to be complete for connecting the Danube with the Oder as the first phase in the project of connecting these two rivers.

Beginning with the current length of 474 kilometers, we intend to give priority to the development of an integrated network of waterways with a total length of 1,443 kilometers, working according to specifications that will be consistent with modern requirements for world class waterways. Independently of this long-range program, moreover, we are also focusing on the broader use of the Danube, Elbe and Oder rivers to transport Czechoslovak goods on our own vessels, above all in our relations with CEMA member countries and their ports. All interested parties still face much more work in this area, especially in the negotiation of commercial and operational issues, so that the water transportation of goods will be advantageous for all participating countries.

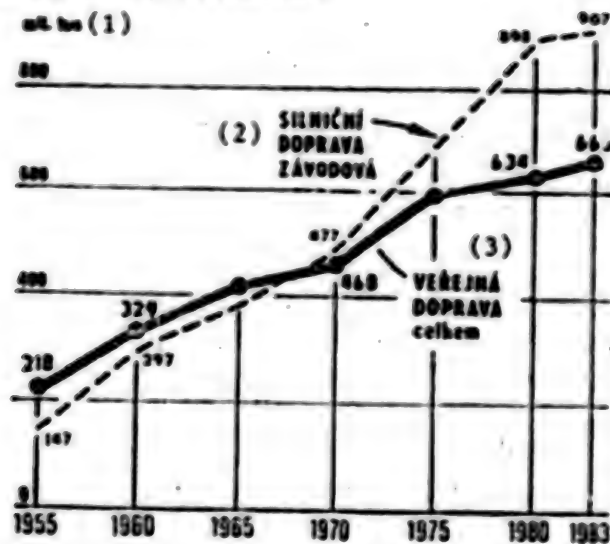
Development of the Road Network

Automotive transportation as a percentage of the international transportation between the CSSR and other CEMA member countries is still quite low, not even equalling the output of domestic automotive transport. European trends are leading to increased automotive traffic at the same time that a shift is occurring in the structure of goods transported from bulk materials to the transport of high value added items. Shippers are primarily interested in the time involved in traveling door to door and in avoiding transfers and potential damage from existing transportation equipment. The relatively low level of utilization of automotive transportation among the CEMA member countries has resulted in part from the failure to negotiate a uniform rate schedule and the failure to set up a dispatching system for international operations.

Increasing the quality of international road transportation therefore requires the extensive reconstruction and modernization of international roads and the development of the road network.

We are devoting attention in particular to the construction of the international routes on which there have been agreements within the CEMA. These concern two international roads: the Rostock-Berlin-Prague-Bratislava-Budapest-Konstanz route and the Gdansk-Warsaw-Bratislava-Bucharest route with an extension to Sofia.

Goods Transportation in CSSR, 1955-1983

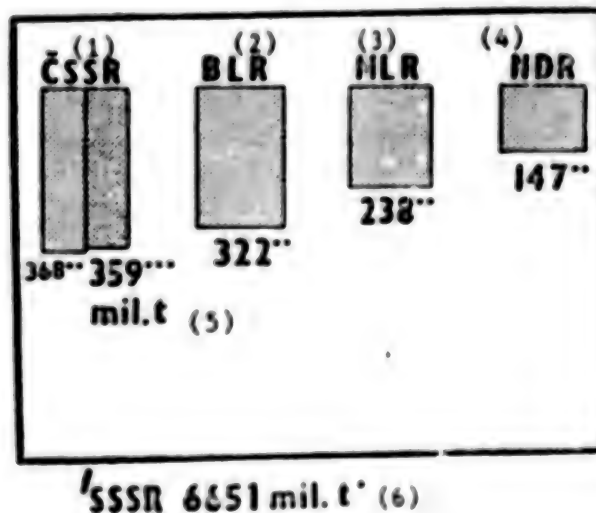


Key:

1. Millions of tons
2. Factory road transport
3. Public transportation, total

Source: "Annual Report for Transportation for 1983," Federal Ministry of Transportation

Transportation of Goods by Public Road Transportation (1981*, 1982**, 1983***)



Key:

1. CSSR
2. Bulgaria
3. Hungary
4. GDR
5. Millions of tons
6. USSR

Source: OSZD, Warsaw 1983; "Transportation Annual Report for 1983," Federal Ministry of Transportation.

International air transport can still exploit certain recreational routes to locations which are not as yet served directly by our aircraft. The air freight sector, however, is not in line to receive a special fleet of aircraft. Some potential exists for using regularly scheduled flights to haul freight bound for international destinations, but the proper tariff conditions must exist for this.

Containers Today and Tomorrow

The broader utilization of combined transportation, which makes it possible to make the entire shipping operation more effective, including loading and unloading operations, is vitally important if the transportation systems of the CEMA member countries are to become more efficient. If one considers the fact that about 2 million people are involved in the transportation and handling of goods in our national economy, and that the same relationship exists to total employment in the other CEMA countries, then it becomes clear that the opportunity exists for the implementation of new technological procedures utilizing combined transportation, which will reduce costs and free up labor.

The 1971 agreement regarding a uniform containerized transportation system created the basic conditions for the building of an equipment base that would be the same for all participating countries. The CSSR is also heavily involved in the containerized transportation of goods.

In 1974-1975 our exports and imports utilized 28,710 containers within CEMA. Over the next 3 years a total of 213,484 containers were used. In the past 3 years (1981-1983) total containers shipped increased again, to 226,760. More than 500 unloading facilities for containers exist within CEMA. Since 1974 container shipments have been taking place within the context of a program for the joint utilization of containers, one of the objectives of which is keeping empty runs to a minimum.

It is unfortunate that the established objectives of joint container utilization have not been realized fully. This has resulted primarily from the fact that:

--in some countries there is a lack of discipline in preparing the operational documents for the system for joint container utilization;

--the technical base in specific countries participating in the agreement on joint container utilization differs (especially regarding the stock of containers);

--requisite economic incentives do not exist to motivate individual countries to bring their container stock into equilibrium.

In the further development of a containerized transportation system we think it will make sense to focus the attention of the CEMA member countries on the following problems:

--developing the transportation of goods in special containers, primarily the transportation of liquid chemicals from the USSR;

--the broader utilization of transportation chains, including domestic handling of the goods at a shipper's, warehousing, the technique for packaging, loading and fastening goods into containers, all of which have the same objective of speeding up the movement of goods and reducing losses or damages to goods during transit;

--the resolution, in conjunction with foreign trade organizations, of a unified modification of existing domestic regulations with the objective of facilitating the broader application of a containerized system to the division of transportation work and the choice of transportation path.

Main Transit Lines

Less important and therefore little utilized are other possibilities in the area of combined, direct shipments. A train ferry is currently operating for the movement of freight cars between Il'ichevsk (USSR) and Varna (Bulgaria). In a cooperative project between Bulgaria, Hungary, the USSR, and Czechoslovakia, so-called lighters (river boats) are being transported from docks on the Danube, via ocean-going freighters, to Southeast Asia.

The transportation of semi-trailers among the CEMA member countries has not yet been considered. The first steps in this direction have been taken by Bulgaria, which transports semi-trailers by ferry along the Danube, stopping at Reznó, Passau, Linz, Vienna, and Vidin (a Danube port in Bulgaria). Each ferry holds 49 trailers.

This combination not only assures the direct door-to-door transportation of goods, but it also results in significant energy savings, as well as reducing wear and tear on both tractors and drivers. The purchase of four ferries for all practical purposes assures the regularity and smoothness of goods transportation and reduces production costs. In short, this is the kind of qualitative improvement expected from the transportation sector by the entire national economy.

Everyone knows today that crude oil and natural gas are transported by pipeline. Our country has also become an important transit route for both oil and gas. The use of pipeline transportation has brought us considerable economic advantages as well as contributing to the resolution of the capacity problems in our transportation system. Other possibilities exist in this area not only in oil and gas transportation, but also in the transportation of other appropriate materials.

Moving Forward Jointly and Rapidly

A number of additional objectives related to the development of the transportation capital stock have been combined in a long-range priority program for cooperation in the area of transportation. The main mechanism should become the 5-year coordinated plan for the development of transportation in the CEMA member countries and annual implementation plans, not only in terms of the volume of mutually exchanged goods and transit shipments, but also in terms of important measures to assure the international transportation of passengers and goods of an organizational-technical and capital investment character.

In connection with this, it will be necessary to improve the coordination of the work of transportation, planning, and foreign trade agencies related to the comprehensive integration of specific modes of transportation by rationally allocating transportation work as a step to the building of a unified transportation system within the CEMA member countries.

In terms of the efficient development of the transportation infrastructure, it is desirable that the joint construction of transportation routes and internationally important facilities in specific CEMA member countries be the primary focus of development.

At present every country as a rule approaches the construction of an international transportation infrastructure primarily from the viewpoint of its own economic policy and economic benefit for its own national economy. For this reason every state assures the construction or reconstruction of transportation routes and internationally important facilities on its territory primarily from its own financial resources. To date, we have lacked several important mechanisms for integrating national interests with those of the community. The issues of joint investments and contracting services for the transportation infrastructure are among the most important of these absent mechanisms. The joint construction of oil and natural gas pipelines can offer positive experiences which could be gradually made use of in building a transportation infrastructure for other modes of transportation as well. We have had similarly positive experiences with joint investments in the transportation fleet in the establishment of the joint water transportation enterprise, Interlichter.

Experiences with the management and utilization of the freight car fleet (OPW) and containers have been on the whole positive, and it would be advantageous to utilize them in water, automotive and air transportation, either in a similar form or at a higher organizational level through the development of joint enterprises.

Faster progress in implementing a socialist division of labor is sometimes prevented by a number of factors of a primarily economic nature, and which can be resolved only over a very long time and with much difficulty.

The establishment of international freight rates, however, indicates that it is possible to achieve positive results with hard work. In the case of rates, it was correctly perceived that rate policy was one of the main mechanisms for increasing the efficiency of mutual goods exchange and for achieving the requisite division of labor between the various freight modes.

Unified Transportation Policy

The principles for the resolution of all the above-mentioned and generally known problems should be expressed in a unified transportation policy for the CEMA member countries, the objective of which would be the coordinated development of specific transportation modes within a single system so as to meet transportation requirements with maximum effectiveness. At the same time, a joint transportation policy for the CEMA member countries should contain the principles for a differentiated approach to capitalist and third world countries, especially with regard to the discriminatory measures which capitalist states have imposed on CEMA countries in the area of transportation.

Transportation problems were a subject of discussion at the 37th session of the Council for Mutual Economic Assistance and were mentioned once again in the decree on the main directions for the further development and intensification of economic and scientific-technical cooperation among the CEMA countries, which was issued at the conclusion of discussions among the highest dignitaries of the CEMA countries this past June in Moscow. The documents that were approved are serving as the basis for an analysis of the operation of the transportation system within CEMA. This will suggest measures to improve its efficiency, which will be reflected in the form of principles for a unified transportation policy for the CEMA member countries. Czechoslovakia will also be participating in this work since we play an important role in assuring the transportation requirements of the CEMA countries.

9276

CSO: 2400/51

REPORT ON FULFILLMENT OF 9-MONTH ECONOMIC PLAN

Sofia RABOTNICHESKO DELO in Bulgarian 25 Oct 84 pp 1, 2

[Unattributed article: "A Good Basis for Fulfilling the Annual Plan; Statement by the Committee for the Unified System for Social Information Under the Council of Ministers Concerning the Results of Fulfilling the Unified Plan for Socio-economic Development of the Nation During the 9 Months of 1984"]

[Text] During the 9 months of the jubilee year of 1984, our people continued to carry out the decisions of the 12th Congress. The nation's economy has developed along intensive lines.

As a result of the party-political and organizational work carried out and the developing socialist competition, the workers have greeted with worthy deeds the 40th anniversary of the socialist revolution in Bulgaria.

During the January-September period, the economic organizations and enterprises (not including agricultural) produced 5.2 percent more net product than during the same period of the previous year, while aggregate profits rose by 7.2 percent. Production quality and efficiency increased. In comparison with the 9 months of 1983, social labor productivity grew by 4.9 percent and provided virtually all the increase in net product.

Foreign trade turnover is continuing to increase rapidly. Integration ties of the nation with the Soviet Union and the remaining socialist commonwealth countries are deepening.

Retail trade has grown. A number of measures were carried out to improve the standard of living of the people. New victories were also achieved in implementing the December Program.

Industry

The economic organizations and enterprises of industry overfulfilled the plan quotas for the production of industrial product. More than 394 million leva worth of product were produced above the plan. In comparison with the 9 months of 1983, planned industrial commodity product rose by almost 1.3 billion leva or by 4.6 percent.

Produced Industrial Commodity Product

Ministries and Departments	9 Months of 1984 in % of 9 Months of 1983
Energy and raw material resources	104.6
Chemical industry	107.8
Machine building	109.4
Production and trade of consumer goods	102.9
National agroindustrial union	100.4
Forests and forest industry	101.7
Construction and conurbation system	103.0
Transportation	98.2
Communications	106.7
Central cooperative union	105.2
Sofia people's council	103.0

Increasing at a more rapid pace was the product of the machine building and metalworking industry, the chemical and rubber industry, ferrous metallurgy, the production of electric and thermal power.

Virtually all okrugs overfulfilled the plan figures for the production and sale of industrial commodity product. In comparison with the 9 months of 1983, the highest production growth was achieved in the following okrugs: Vidin, Razgrad, Lovech, Varna, Sofia and Stara Zagora.

During the 9 months of 1983, the production of a number of basic industrial articles grew. This created additional opportunities for expanding and modernizing the material and production base of the national economy as well as for further satisfying the needs of the domestic market and exports.

The national economy has been provided with more than planned amounts of electric power, hot-rolled steel sheet, industrial robots, universal lathes, tractors, railroad cars, battery-operated plant trucks, electric units, cables, automatic telephone exchanges, nitrogen fertilizers, chemical fibers and filaments, synthetic latexes, reinforced concrete elements for construction, furniture, paper, plate glass, knitwear, footwear, yellow cheese, prepared and semi-prepared foods, butter and a number of other articles.

The plan quotas have not been fulfilled for the production of cold rolled steel sheet, tinned plate, unit-head machines, combines, trucks, buses, asynchronous electric motors, soda ash, phosphorous fertilizers, detergents, cement, tiles, bricks, and chipboard.

Production of Certain Basic Industrial Articles

Production	9 Months of 1984	9 Months of 1984 in % of 9 Months of 1983
Electric power, million kw hours	32,592	106.9
Rolled ferrous metals (rolled metal), tons	2,588,000	106.1
Steel pipe, tons	213,000	100.4
Galvanized steel sheet, tons	119,000	109.8
Industrial robots and manipulators, units	784	135.6
Highly productive lathes, including with program control, units	431	138.6
Program-digital devices for control of metalworking machines, units	366	183
Program control units for control- ling manipulators and robots, units	668	131.2
Automatic telephone exchanges, lines	340,000	107.5
Tractors, units	4,187	101.4
Boxcars, units	2,477	116.2
Buses, units	1,845	97.8
Electric hoists, units	100,000	99.4
Battery-operated plant trucks, units	34,900	111.1
Internal combustion engine plant trucks, units	24,783	116.8
Asynchronous electric motors, units	977,000	103.2
Batteries, units	849,000	100.6
Nitrogen fertilizers, tons	625,000	102.7
Chemical fibers and filaments, tons	81,000	106.6
Polyvinyl chloride, tons	89,000	114.3
Tires for trucks, buses, trolley buses and trailers, units	603,000	102.7
Tires for passenger cars, units	609,000	106.3
Cement, tons	4,321,000	101.6
Paper, tons	276,000	103.5
Cotton and cotton-type textiles, million meters	273	99.6
Wool and woolen-type textiles, million meters	30	102
Silk or silk-type textiles, million meters	28	98.5
Garments, million leva	525	104
Prepared and semiprepared food, tons	40,000	143
Tobacco articles, tons	68,000	102.1

As a result of the additional measures taken to carry out the decisions of the National Party Conference on quality, the quota for the production of products with the "K" [Quality] mark was overfulfilled by 15.5 percent and its relative share in the total volume of commodity product was higher in comparison with the same period of the previous year.

The new and modernized product produced during the 9 months was 22.9 percent more than in the same period of the previous year.

Good results have been achieved in fulfilling the quota for reducing manual labor. During the 9 months, in the sector some 17 robots and 318 mechanized flow lines were introduced while 125 sections, shops and production lines were mechanized and fully automated. Some 10,064 new workers in industry switched from manual to mechanized and automated labor.

In comparison with the 9 months of 1983, social labor productivity in the sector rose by 4.2 percent and provided 89 percent of the increase of net product in industry. Above-planned profits were realized of 156 million leva, with total profits increasing by 7.3 percent in comparison with the same period of last year.

Capital Investments and Construction

During the 9 months, 4.6 billion leva were invested into the national economy. A predominant share of the capital investments, some 74 percent, went into the sectors of material production.

Fixed capital valued at 2.7 billion leva were put into use and this was 3.3 percent more in comparison with the same period of the previous year.

More fixed capital was completed than planned in the 9-month figures in the systems of transportation, the National Agroindustrial Union, construction and the conurbation system, energy and raw material resources, communications and machine building.

The quota was also overfulfilled for the completion of fixed capital at the economically important projects such as: the 5th and 6th reactors at the Kozloduy AETs [Nuclear Power Plant], electric steel production at the Pernik Lenin SMK [Metallurgical Combine], the 300 mill at the Burgas SMK, the G. Damyanov MDK [Copper Combine] in Srednegorie, the Asarel Mining-Processing Combine, the ammonia production line at the Dimitrovgrad Chemical Combine, the Madara Truck Combine in Shumen, the Rekord Internal Combustion Engine Plant Truck Combine in Plovdiv, the N. Y. Vaptsarov Machine Building Plant in Pleven and the Pazardzhik Magnetic Disk Plant.

The construction and installation organizations, as the main executors, have completed 3.4 percent more construction-installation work in comparison with the same period of last year. The planned volume of construction-installation work was not completed at certain nearly-finished projects.

Agriculture

During the last 9 months, the workers at the agricultural organizations worked intensely to provide the agricultural products envisaged in the plan figures. With the new brigade organization established, better opportunities were created to apply the economic approach and improve the organization of labor.

Good preparations were carried out for the agricultural work. For the basic spring crops the planted area envisaged in the planning figures was provided. A good wheat and barley crop was brought in, in providing high-quality grain. During the current year, intense production of corn was carried out on around 1.8 million decares of irrigated land instead of the planned 2 million decares.

The autumn harvesting season was carried out with improved organization in comparison with last year.

Up to the end of the month of September, in comparison with last year, more area had been prepared and sown with wheat and barley.

During the 9 months good results were achieved in collectivized livestock raising.

The produced livestock product at the agricultural organizations was 3.7 percent greater than during the 9 months of 1983. Milk production (in physical units) increased by 2.4 percent, cow milk by 3.6 percent, and eggs by 4.4 percent. The average milk yield from a fodder cow increased by 146 liters or 5.6 percent, while the average number of eggs laid per layer increased by 1.3 percent.

The number of animals at the agricultural organizations and divisions on 1 November 1984 was:

	Number	1 Oct 84 in % of 1 Oct 83
Cattle	1,397,671	99.2
including cows	475,094	99.1
Pigs	2,864,627	98.5
Sheep	6,558,144	100
Poultry	28,819,396	113.7

Milk production during the 9 months of 1984, in comparison with the same period of last year, increased in 21 okrugs, with the increase being greater in the following okrugs: 14.1 percent in Blagoevgrad, 8.9 in Tolbukhin, 7.7 in Kurdzhali, 6.9 in Vratsa, 6.8 in Sofia and 5.9 percent in Khaskovo. During the January-September period of this year, significantly more eggs were produced at the agricultural organizations and divisions of the following okrugs: 16.9 percent in Pleven, 12.4 in Razgrad, 10.2 in Varna, 7.3 in Khaskovo and 6.3 percent in Vratsa.

The average milk yield from a fodder cow increased most substantially in the following okrugs: by 400 liters in Blagoevgrad, by 360 in Tolbukhin, by 298 in Stara Zagora, by 283 in Vidin and by 256 liters in Vratsa.

The purchasing of livestock products increased. As a total for all categories of farms, more was purchased than during the 9 months of the previous years as follows: 0.1 percent more livestock and poultry, 1.7 percent more milk (with

3.6 percent fat content) and 2.1 percent more eggs. The purchases of vegetables also improved.

Transportation and Communications

The nation's transportation and communications system continued to develop and improve.

The public transportation organizations carried 15.7 million tons, or 5.5 percent, more contracted goods than planned. Rail transportation fulfilled its 9-month quotas for transporting contracted goods by 100 percent and public motor transportation by 107 percent.

The results for a number of technical and economic indicators were better than in the 9 months of 1983. The turn-around time of a freight car declined by 0.29 hours while the average gross weight of a freight train rose by 1.3 percent. The section speed of the freight trains increased and the empty run of freight cars declined.

Some 4.7 million, or 0.3 percent, more passengers were carried than planned. In order to improve the transport ties for the population points with the centers of the conurbation systems, 125 new bus lines were put into operation with 454 runs, as well as 563 new runs on the existing bus lines. A larger portion of these was in the small conurbation systems, the mountain and frontier areas.

The realized income from communications services was 9.8 percent more than in the 9 months of 1983.

The postal network was expanded with 27 new PTT [post, telephone and telegraph] offices, 17 of which are in villages. Some 107,216 new telephones were installed, including 85,512 in homes. Some 142 new telex facilities were opened. One radio transmitter, 2 television transmitters, 19 radio relay centers and 50 television relays were put into operation.

Foreign Economic Relations

During the 9 months, significant successes were achieved in the area of foreign trade relations. The foreign trade turnover reached 18.5 billion currency leva and this was 8.5 percent more than in the 9 months of 1983. The nation's exports rose by 9 percent while imports increased by 8 percent.

Particularly successful were the foreign economic ties of Bulgaria with the CEMA member nations. The trade realized with the Soviet Union reached 10.8 billion currency leva.

Mutually advantageous trade ties are continuing to develop with the developing countries and the developed capitalist nations.

The number of foreign tourists who visited Bulgaria during the 9 months reached almost 5.4 million persons and this was 3.1 percent more than in the same period of last year.

The Standard of Living of the Population

On the basis of the achieved stable results in the development of our economy, measures have continued to be carried out for increasing the standard of living of the people.

In July, a decision came into effect to provide free medicines for treating children under the age of 6 under home conditions and for extended paid leave for taking care of a sick child. As of the first of September, the amount of the minimum monthly wage and salary paid to junior specialists was increased as well as the salaries of teachers and higher and middle-level medical personnel.

The average wages of workers and white collar personnel in the economic organizations (not including agricultural) increased by 2.4 percent in comparison with the 9 months of 1983.

During the last 9 months, the domestic market received more and more diverse high-fashion, luxury and delicatessen goods as well as a rich assortment of consumer goods. The production of articles earmarked for the domestic market during the 9 months surpassed the planned figure by close to 500 million leva. The consumer goods shops and ancillary production and auxiliary farms at the enterprises provided 349 million leva worth of consumer goods.

Goods Produced for the Domestic Market

	9 Months of 1984 in % of 9 Months of 1983
Meat	105.4
Milk	103.3
Cheese	101.7
Yellow cheese	106.3
Butter	107.1
Eggs	118.4
Sugar	105.6
Sugar products	100.5
Children's foods	102.9
Sterilized canned vegetables	103.4
Nonalcoholic beverages	104.0
Outer knitwear	104.7
Footwear (excluding indoor)	106.6
Hosiery	103.8
Home refrigerators	103.5
Electric batteries	134.2
Electric washing machines	138.2
Including automatic	130
Heaters	104.7
Stoves	107.7
Furniture	101.1

The newly opened and modernized stores of the retail trade network and public dining have improved their services for the public.

Retail trade reached 10,495,000,000 leva or 4.2 percent more than the sales in the 9 months of 1983.

In all okrugs, retail trade was greater than the sales during the same period of last year, with the increase being more significant in the following okrugs: 7.4 percent in Razgrad, 7.1 percent in Blagoevgrad, 6 percent in Khaskovo, 5.5 percent in Smolyan, 5.3 percent in Pernik, 5.2 percent in Vratsa and 5.9 percent in Silistra.

Regardless of the indisputable improvement in trade services for the public, as a result of uncoordinated actions between production units and trade organizations, in individual regions of the nation, even though briefly, a shortage was felt for certain types of fruits and vegetables, chocolate products as well as certain non-food items.

Activities are being widened to provide consumer services for the public. The total volume of services during the 9 months reached 487.1 million leva and this was 7 percent more in comparison with the same period of last year.

Domestic Services for the Public	9 Months of 1984 in % of 9 Months of 1983
Maintenance and repair of household appliances	105.9
Maintenance and repair of radio and TV equipment	110.2
Maintenance and repair of motor vehicles	107.1
Furniture and woodworking services	106.7
Tailoring services	105.5
Construction-repair services	107.6
Metalworking services	113.1
Dry cleaning	105.2
Laundry	114.6

In all sectors, the services provided for the public exceeded the level achieved during the period of January-September 1983. The more substantial increase was in the following okrugs: 23.1 percent in Smolyan, 12.1 percent in Silistra, 10.3 percent in Mikhaylovgrad, 10.1 percent in Pernik, 9.8 percent in Sofia Okrug, 9.6 percent in Stara Zagora and 9.1 percent in Vratsa and Kurdzhali.

Over the 9 months since the start of the year, 31,589 new residences were completed and turned over for use.

The successes achieved are a good basis for the complete fulfillment of the annual planning quotas and goals. During the 4th quarter there must be a complete mobilization of the efforts in the labor collectives to further improve the quality and efficiency in all spheres and activities of the national economy on the basis of consistently applying the economic approach and its mechanism.

Chief attention must be focused on fulfilling the tasks related to technical progress and the achieving of the planned effect, for the even thriftier utilization of energy, raw products and materials, for providing a fuller load on production capacity and utilizing the nation's labor resources in the aim of fulfilling the 1984 plan.

10272

CSO: 2200/29

ECONOMIC COOPERATION WITH AUSTRIA EXPANDS

Sofia IKONOMICHESKI ZHIVOT in Bulgarian 10 Oct 84 p 7

[Article by Genadi Georgiev: "Bulgaria-Austria: Cooperation With a Good Future"]

[Text] Since September of this year, the Bulgarian Trade Mission has attracted attention to its seven-story building in the center of Vienna, on Rech tewindseile Street. It has halls for trade exhibitions, symposia, and meetings. Representatives of Balkan, the Bulgarian Civil Airline, and of Balkantourist meet persons who would like to visit our country there, whether Austrians or other citizens. There is no doubt that this building will put even more emphasis on Bulgarian business presence in the Austrian capital. And this presence is far from being insignificant.

Bulgarian-Austrian firms, such as Rhodopacommerce, Deman and others, and representatives of a number of Bulgarian foreign trade organizations work here; roundtable discussions and days devoted to Bulgarian economics and technology take place; active and useful business conversations are conducted at various levels, transactions are made. This presence is augmented by the dynamic development of mutual trade and economic relations; this is something that both sides sincerely wish, as I was able to ascertain, from conversations with Austrian and Bulgarian contacts.

"Our cooperation has a prosperous future, which is built on our mutual aspiration to deepen and enrich it. Bulgaria with its increasing economic and financial possibilities, will become a more and more important partner of Austria during the next few years," Dr Philip Marbo of the Austrian Federal Chamber of Commerce said in a conversation.

He then pointed out a series of data and facts of greater and greater interest to the more than 400 Austrian firms in the Bulgarian market, which attracts them because of its stability.

"Our largest area of joint cooperation at the present time is the cooperation between Steier-Daimler-Puch and Balkankar in transportation machine building. The manufacture of skis under license from Atomik in Chepelare resulted in good prospects and mutual benefit. Significant results have also been achieved in many other industrial areas. As far as cooperation in tourism is concerned,

it is enough for me to bring up again the hotel built in Sandanski and the aerial tramway on Mount Vitosha, the resort under construction on your Black Sea shore. Of course, there are many unexplored possibilities, and our attention is directed precisely toward them. Our cooperation could be expanded through closer business contacts, especially at the level of the firms, including at the Vienna and the Plovdiv Fairs. Also, joint activity in third countries, good examples of which are found in Libya, Nigeria, and other places, reveals favorable prospects for our mutually beneficial cooperation."

I heard a similar evaluation of the cooperation between Austria and Bulgaria in a conversation with Dr. Romuald Ridl, member of the management council and director of the Zentralsparkasse and Kommerzialbank.

"I believe that Austrian business circles are attracted by the stability of the Bulgarian economy, which for many years has proven its ability to attain high indices, through its qualitative modifications and intensive development. For us Bulgaria is a traditional and preferred economic partner, which we treat with great respect. We are glad that our business contacts are expanding along with our good political relations and consolidated friendship between our nations; regular meetings between the leaders of both countries also contribute to this."

Doctor Ridl spoke with warm affection about his meetings with Bulgarian financial and economic leaders and specialists, about the joint projects underway or planned for the future, about the readiness of their bank to increase the contribution to expansion of bilateral business relations.

I learned about the Bulgarian point of view on this matter from our trade representative in Vienna, engineer Konstantin Filev. He and the other employees of the mission--young, dynamic people--have impressed their Austrian partners with their competence and efficiency.

"Bulgarian-Austrian economic cooperation has developed in an upward direction in the last few years, and it is constantly being enriched with new forms. Intensified contacts at governmental and business levels, meetings between the leaders of both countries, play an important role in this. The adoption of a long-term program for developing and expanding economic and scientific-technical cooperation up to 1987 has determined the main areas and trends, as well as a number of concrete activities for improving it. Commodity exchange last year exceeded 230 million hard currency leva. We should be content with the advancement in the area of scientific-technical and marketing cooperation, in the area of finance and credit. New agreements have been signed with Austrian banks and leading firms. In response to the increasing interest of our partners here in the Bulgarian market, we are trying to offer them more opportunities to get acquainted with the specifics and conditions of making transactions and conducting various business contacts. Our desire for active cooperation on the basis of quality and mutual benefit is a shared one."

Indeed, this mutual aspiration toward expanding and deepening bilateral commercial-economic relations is a guarantee of a constant rise in the level of these relations, of strengthening the friendship between the Bulgarian and Austrian nations, as was made clear during the recent visit of the federal chancellor of the Republic of Austria, Dr. Fred Sinovac, to Bulgaria.

INTERNATIONAL MOTOR TRANSPORTATION COMPETES EFFICIENTLY

Sofia IKONOMICHESKI ZHIVOT in Bulgarian 10 Oct 84 p 5

[Article by Noyko Kutev, scientific associate at the Institute for Comprehensive Transportation Problems: "Contemporary Technologies"]

[Text] The efforts of the administrative management of the International Automotive Transport Economic Trust (IATET) have been directed, since the beginning of this year, toward implementing contemporary technologies in direct operational activity. According to the concrete conditions and customers' requirements, optimal transportation schemes are being introduced with high labor organization and management control systems.

Combined transportation has been improved in the following transportation schemes: overland-river-overland, and overland-sea-overland. The river itinerary, the so-called Ro-Ro route from Passau to Vidin, has already been operating for several years. In March of this year, the Ro-Ro sea route from Burgas to Marseilles to Barcelona was opened. The opening of the Marseilles-Livorno-Volos-Burgas route is forthcoming.

The economic effect from the realization of this new technology is rather significant. It saves on fuel and lubricant, tires and road tolls, the wage fund, etc. The idle time at customs and border checks is reduced. The effect is multiplied by taking into account the integrated services: for example, the IATET makes containers and semi-trailers available.

By applying these types of contemporary technologies, the quality of transportation services has been significantly improved: express freight deliveries are being offered on routes from Western Europe to the Near and Middle East with scheduled delivery less than 14 days from the sailing date. Another technology for combined shipping, which is being used under operational conditions, is related to the reloading and reshifting, from rail and sea transport, of auto-compositions in Dimitrovgrad and Burgas. When fully realized, the technology will significantly increase the amount of hard currency entering our country.

The use of Hook-a-Pack railroad cars allows for the possibility of reducing material expenses and participating in the lower prices on the transportation market. There are such possibilities on the routes from Western Europe to the

Near East. In addition, Tieflader and Jumbo semi-trailers are being introduced into operation for carrying bulky, oversize, and special cargos, in order to improve the park structure.

The intensive implementation of automated control systems for improving the operational management of the IATET is a global problem at this stage. Conditions for the variability of decisions, for more effective management of the automobile park and the service activity, for using the most effective itineraries, will be created through development and implementation of these systems.

The material cost for the first 6 months of 1984 at the IATET decreased by .69 leva for each 100 leva of income, compared with the same period last year. Here again, the style of operation is decisive. Measures for the control of expenses were made in due time on the basis of internal self-accounting. New methods of saving were found mainly by reducing the fuel expense, intensive regeneration of external tires, restoration of parts. In addition, a contemporary apparatus for precise diagnosis of diesel engines was introduced. The technology for complete restoration of drivers' cabins was expanded.

The opening of duty-free zones in the respective countries, allowing for the priority use of transportation means by the host country, is an interesting form of expanding the scope of activity of automobile carriers from Europe, including the socialist countries. Duty-free zones allow for the possibility of conducting other services as well: production, advertising, commercial forwarding. The experience of Yugoslavia and Hungary is valuable in this respect. It is recommended that this experience be applied in the area of transportation, not only in the practice of the IATET, but by other transportation organizations as well.

The prolonged, acute economic crisis in the capitalist countries, which began as early as 1980, has had an impact on the world transportation market too. Competition among foreign carriers as a result of reduced amounts of shipping has become stronger. This has led to reducing the freightage (shipping prices). A considerable number of West European carriers have taken on the routes served by the IATET. Customer requirements in terms of the quality of transportation have increased.

These are the main prerequisites for timely development of a marketing program, differentiated by sections, in compliance with the "scientific research-market demands-operation" functional mechanism. It would be advisable to develop this program to devote more attention to the software with regard to the condition of the transportation market according to the economic development of the countries to be analyzed, as well as long- and short-term forecasting, the structure of the amount of cargo flows according to destinations. Claims activity and the means for competition are especially important, too, in realizing the marketing program. Its activities and tasks usually have a comprehensive character and are related to the optimization of transportation activities by using the leading technologies and direct interaction with the different kinds of transportation. This is essential for the logistics of transportation marketing.

The development of the transportation infrastructure in our country, its geographical location, as well as the broad application of the leading technologies, offer good opportunities for increasing the hard currency effectiveness of the operating activity of the international transportation market.

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CSO: 2200/31

CUBANS WILL BE TRAINED TO OPERATE ATOMIC POWER PLANTS

Sofia ECONOMIC NEWS OF BULGARIA in English No 6, 1984 pp 1, 3

[Article by Svetlin Stanev: "Teamwork in Nuclear Power Generation"]

[Text]

Following the adoption of a Complex Programme on further deepening and perfecting socialist economic integration, the CMEA (Comecon) countries have embarked on ever closer cooperation in nuclear power generation. On the basis of Soviet experience nuclear energy has been harnessed for peaceful purposes also in the smaller socialist states. Long years of exploitation of nuclear power plants in the USSR have borne out the advantages of building them, especially in countries like Bulgaria.

Fully aware of the shortfall in its own energy sources in view of the economic expansion prospects for the years ahead, in 1969 the Bulgarian government took some decisions of key importance for the power generation industry. It was namely decided to launch the construction of nuclear-power plants on a wide scale; meanwhile further integration with the socialist countries, above all with the USSR, would help develop the raw-material and energy base and improve the structure of Bulgarian fuel-energy balance.

The construction of the first "nuke" in the Balkan peninsula started in 1970 near Kozlodouï on the Danube. Its first stage provided for two reactors to come on stream with an overall power of 880 Megawatts. Working at full capacity they can produce 21 million kWh of electric energy in 24 hours. Soon after the first two reactors came into operation in

1974 and 1975, the Kozlodouï station reached 7000 hours of full rated-power use annually, and emerged as Europe's leading plant on this indicator.

When the third and fourth reactors came on stream in 1980 and 1982, Kozlodouï's overall power reached 1760 Megawatts, whereby our country emerged as the third nuclear-generation country in the CMEA, after the USSR and the GDR. In the years to come nuclear generated power in the European CMEA countries will continue to rise at an accelerated pace; as a result the overall power of "nukes" in those countries is expected to grow substantially. During the 80s one of the youngest socialist countries of CMEA, Cuba, will get a nuclear power station. Cuban experts will undergo training in Bulgaria at a power plant of a similar type near Kozlodouï. Under a contract between Bulgaria and Cuba, Bulgarian experts will provide assistance in the first years

of exploitation of the Cuban 'nuke' near Cienfuegos.

The further development of nuclear power generation in our country is currently going through a new stage of substance: for the first time a socialist country other than USSR has started building a 1000 MW reactor which will generate more than 6000 million kV a year. The same power is planned for the next, sixth Kozlodouzi reactor, as well as for the four reactors of the second Bulgarian nuclear power plant - Belene.

In order to solve the numerous problems related to the use of nuclear energy peaceful purposes, Bulgaria and the other CMEA member-countries embarked on ever broader multilateral cooperation in that field. Significantly, they have been pooling efforts in the research and development work of the United Dubna Institute for Nuclear Studies, founded in 1956. As a result of the participation of eleven socialist countries in its work, the Institute has achieved considerable scientific progress and substantial economies have been realised over the past years from the sharing of expenses, the utilisation of a unified experimental base of unique instruments and equipment, and from the avoidance of duplicating research programmes.

In 1960 the 13th CMEA Session decided to set up a Permanent Commission on the peaceful use of nuclear energy: delegations from Bulgaria, Hungary, the GDR,

Poland, Romania, the USSR and Czechoslovakia have been taking an active part in it, and Cuba joined in in 1972. This Commission is extremely useful to the promotion of multi- and bi-lateral cooperation in the field of nuclear power generation, nuclear instrument making, radiation safety, etc. On its decision, an international economic corporation was set up in 1972 to manufacture and distribute various nuclear instruments. It was named INTERATOM-INSTRUMENT and its seat is in Warsaw. The founding countries were Bulgaria, Hungary, the GDR, Poland, the USSR and Czechoslovakia. Since 1975 there have been subsidiaries of INTERATOM-INSTRUMENT: in Bulgaria (Pleven), in Poland (Zeliona Gura), and the USSR (Dubna), which have considerably activated its performance.

Towards the end of 1973, the CMEA socialist countries and Yugoslavia signed a contract to set up another international economic corporation - INTERATOM-ENERGO - based in Moscow; its purpose is to organise the co-ordinated production of equipment, its delivery to the respective countries, the lending of assistance in designing, building and exploiting nuclear power plants; as well as to train the necessary staff and personnel.

At the 33rd CMEA session held in 1979 in Moscow, the government leaders of Bulgaria, Hungary, Poland, Romania, the USSR, Cze-

choslovakia as well as Yugoslavia signed an Agreement on multilateral industrial cooperation and specialisation and mutual supplies of equipment for "nukes" between 1983 and 1990. The Agreement is the largest in the CMEA and some 50 industrial corporations from the eight socialist countries are taking part. It devotes special attention to securing the top quality of equipment produced, to guarantee the separate technoeconomic indicators, the responsibility of the manufacturing countries for quality standards, the terms of delivery, etc. For the coordination of teamwork and the realisation of the Agreement, a special intergovernmental commission was set up to resolve the tasks referred to it by making use of the possibilities of the international economic corporations of INTERATOMENERGO and INTERATOMINSTRUMENT.

Further progress in closer cooperation among the CMEA socialist countries certainly opens the way for the smaller countries like Bulgaria to solve a number of problems related to the fuller provision of power for the economy and ensuring better chances for accelerated economic progress. The results obtained so far from teamwork in this sphere show beyond doubt that as things stand at present, only joint efforts can successfully and quickly solve the most complex problems on the way of expanding nuclear power generation in the socialist countries.

POSITIVE EXPERIENCE GAINED IN OPERATING ATOMIC POWER STATION

Sofia ENERGETIKA in Bulgarian No 8, 1984 pp 5-11

[Article by engineer Georgi Dichev, chief director of the Kozloduy Atomic Power Plant: "Ten Years for the Kozloduy Atomic Power Plant"]

[Text] Ten years ago, on 30 June 1974, the first atomic reactor of the Kozloduy Atomic Power Plant was physically set in motion. On 24 July the block was included in the power system, and on 25 October it reached its full capacity. On 4 September 1974 Comrade Todor Zhivkov officially opened the first block of the Kozloduy Atomic Power Plant.

With this act, Bulgaria took its place among the first 20 countries in the world which produce electric power with the most modern technology--from the nucleus of the atom.

The first block of the Kozloduy Atomic Power Plant was the first practical result of the resolution of the November Plenum of the Central Committee of the Bulgarian Communist Party in 1969 on more rapid development of atomic energy, and the intergovernmental agreement with the USSR signed in 1966 to build an atomic plant here. Now, when we already have four atomic power blocks in operation, are building the fifth and sixth ones, and have signed an agreement with the USSR to build a second power plant, we can evaluate how farsighted, wise, and bold the party's resolution to introduce atomic energy here was. Thanks to this, we have been able to avoid the influence of certain phenomena in global power generation and have achieved a stable growth in the country's energy production.

The basic increase in the production of electrical power during the Seventh and Eighth 5-Year Plans was due to the Kozloduy Atomic Power Plant. What is more, according to the percentage of electric power supplied by atomic power plants, Bulgaria is among the six leading countries of the world (Table 1). The facts about their contribution (25-32 percent) during the last few years give even more weight to the view, as we can see, that the demand for electric power per inhabitant here (5030 kWh in 1983) is higher than the average in Europe.

Table 1. Overall production of electrical power by atomic power plants in the world in 1983

<u>Country</u>	<u>In percent</u>
England	17.0
Belgium	45.9
Bulgaria	29.0 (32.3)*
GDR	12.0
Canada	12.9
USA	12.6
Finland	41.5
France	48.3
West Germany	17.8
Switzerland	29.3
Sweden	36.9
Japan	18.0

*According to data from (MAGATE)

After the first block was set in operation, further work on building the Kozloduy Atomic Power Plant continued at a fast pace. The attainment of the first block's projected capacity coincided with the beginning of work on the second block.

On 22 August 1975 the second reactor was physically set in motion, and on 5 November the block reached its full capacity. Thus, 67 months after construction began, 880 MW of atomic power capacity had been built and set in motion.

The requirements for further increases in the security and stability of the Kozloduy Atomic Power Plant compelled the designs of the third and fourth blocks to anticipate and fulfill a number of resolutions for improving the seismic security. Similar resolutions were worked out for the first and second blocks and are now in the process of fulfillment.

The third and fourth blocks attained their designed capacity on 27 January 1981 and 17 June 1982, respectively. With this, the construction of the Kozloduy Atomic Power Plant with VVER-440 blocks was completed. The general installed capacity of the first and second blocks (the Kozloduy-1 Atomic Power Plant) is 854 MW, and the capacity of the third and fourth blocks, according to the initial design conditions, is 863 MW (for the so-called Kozloduy-2 Atomic Power Plant).

During the construction of the first stage of the Kozloduy Atomic Power Plant, a number of our progressive technologies were applied, and a number of original resolutions were implemented. Some of them, such as the loess cement foundation, turned out to be decisive for the plant's greater security of construction. Others, such as the structure and technology of heavy concrete, had a great economic effect.

It is necessary to note that our builders and fitters handled the construction of the first Bulgarian atomic power plant with honor. There was a lack of experience, but there was enthusiasm and a tremendous desire for work on the

part of each worker, specialist, and leader. That was one factor. The second was the fraternal assistance of the USSR, the Soviet organizations, institutes, factories, and the Soviet specialists at the site. During the work on making the plant ready for operation, the number of Soviet specialists at the Kozloduy Atomic Power Plant reached 200, and they were specialists with the highest training.

We should give credit to those who first confronted the problems--the designers. The basic designs of the four blocks were elaborated by Teploelektroproekt of the USSR. The position and role of Bulgarian designing grew with each succeeding block. But even at the very beginning of construction, responsible objectives such as technical water supply, opening up a distribution system, chemical water supply, the general plan, the plant's architecture, the port, as well as the greater part of the construction designs, became a matter for our design organizations, and on the third and fourth blocks almost all the designs for the second outline were worked out by Energoproekt.

An especially important and responsible stage in the construction of the atomic power plant was the starting and adjustment operations (SAO). The analysis of the periods and substages of their fulfillment (Table 2), as well as the technical-economic indicators of the work on the blocks during the first years after putting it into operation, show a continuing perfection and improvement in the quality of the SAO. This is due to the better training of the personnel and their active role, together with the Soviet specialists, as the leader and executor of most of the SAO.

Table 2a. Length of time for the starting and adjusting operations at the basic stages of the first, second, and third blocks of the Kozloduy Atomic Power Plant

Name of the stage	Time in 24 hr. periods		
	First	Second	Third
Hydraulic testing and circulation irrigation of the first circuit	8	10	12
First inspection of the fittings	60	39	35
"Hot" run of the atomic steam producing installation (ASPI)	17	16	12
Second inspection of the fittings	47	63	42
Preparation for physical starting, including loading the reactor with fuel	19	25	21
Physical starting	24	36	12
Power starting and assimilation of the block's capacity:			
5-20 percent	15	7	14
35 percent	11	8	6
55 percent	46	19	16
75-100 percent	22	6	7
72-hour testing of the block	3	3	3
Total	272	232	180

Table 2b. Length of time for the starting and adjusting operations at the basic stages of the fourth block of the Kozloduy Atomic Power Plant

<u>Name of stage</u>	<u>Time in 24 hr. periods</u>
Speed of irrigation through the pipe system of the first circuit (without DU 500)	18
"Cold-hot" run of the ASPI equipment	14
Combined inspection of the equipment	40
Preparation for physical starting, including loading the reactor with fuel	12
Physical starting	7
Research on the hydraulic characteristics of the first circuit	15
Power starting and assimilation of the block's capacity:	
5-20 percent	6
35 percent	13
55 percent	11
75-100 percent	2
72-hour testing of the block	3
Total	<u>141</u>

Based on the experience accumulated here and in other countries, the technologies and array of the SAO are being constantly perfected. With each successive block, the quality rises in the chemical irrigation of the system in the second circuit. When we started the third and fourth blocks, we successfully tested our microprocessor computing systems, the Pchela [Bee]-02 and the Kamak, for recording and processing experimental results. The role and the participation of scientific institutes for producing SAO and assimilation of capacity were also enlarged.

It turned out that the new technology worked out together with Soviet specialists for producing SAO on the critical line of the reactor and the first circuit was especially effective. We applied this technology to the fourth block, and as a result we shortened the time of the SAO to 39 days and nights, with higher quality.

The experience gained in building the first stage of the Kozloduy Atomic Power Plant laid the foundation for certain critical conclusions, confirmed by the operation and connected most of all with quality.

During the second reactor's hydraulics, problems associated with the system for cleaning the thermal carrier arose.

The problems were created by the rust-proof linings of the pools, the reservoirs for the boron mixture, rooms in the special building.

The check made during the basic repairs show that not all the fitting dimensions are being tightly maintained. Gaps in quality are showing up most often in the second circuit system. The experience from the operation of the third and fourth blocks shows the insufficient security of certain resolutions in the blueprints for the power supply and automation.

These weaknesses, despite the fact that they are not essential, show that the system for quality control during construction of the atomic power plant all along the line, from the design task to the design, execution, methods for control and documentation, all need to be perfected constantly.

At the same time, it must be stressed that the basic equipment obtained from the USSR shows high technical quality and safety. This is confirmed by the technical-economic indicators for operation over the course of 10 years.

From the beginning of its operation in 1974 to 30 June 1984, the Kozloduy Atomic Power Plant has produced 71 billion kWh of electric energy. The analysis of the technical-economic indicators (Table 3) points out that after 1976, when the problems related to the hydrodynamic stability of the cassettes for automatic regulation and compensation of the reactivity (ARC) of the first reactor were resolved, the average annual production from one block is around or over 3 billion kWh; the average annual utility is over 7,000 effective hours; the coefficient for usage of the installed capacity (CIC) is over 0.8; the coefficient for time used is over 0.85. During 1983 the electrical power from the Kozloduy Atomic Power Plant reached 29 percent of the quantity produced in the country, and 32.3 percent by the plants operated by the Energetika corporation.

Table 3. Basic technical-economic indicators in the operation of the four blocks at the Kozloduy Atomic Power Plant

Name of the indicator	1975	1976	1977	1978	1979	1980	1981	1982	1983
The plant's installed capacity, in MW	880/480*	880	880	880	880	880	1320	1760/1540*	1760
Percent of overall capacity in the country	7.502	12.72	12.60	11.70	11.09	9.99	14.57	16.60	18.36
Electrical energy produced, millions of kWh: Block 1	1945	2550	2804	2552	3019	3080	3066	2902	3069
Block 2	610	2739	3080	3359	3161	3072	2912	3018	3177
Block 3	--	--	--	--	--	13	3141	2875	2969
Block 4	--	--	--	--	--	--	--	1951	3102
								(7 months)	
In all	2550	4989	5884	5911	6180	6165	9119	10746	12317
Percent of overall production of electric power for the country	10.12	17.98	19.80	18.77	19.02	17.70	24.67	26.58	29.0
Coefficient of capacity use, in percent **									
Block 1	52.86	60.99	76.21	69.34	82.23	83.80	83.42	79.17	83.50
Block 2	46.20	74.24	83.71	91.03	86.10	83.58	79.25	82.36	86.52
Block 3	--	--	--	--	--	--	85.46	78.44	80.63
Block 4	--	--	--	--	--	--	--	79.11	84.39
In all	49.53	67.61	79.96	80.27	84.14	82.13	82.71	79.83	83.76

(Table 3 continued)

<u>Name of the indicator</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
Coefficient of installed capacity by time, in percent									
Block 1	81.22	78.22	82.37	74.70	83.11	85.94	85.71	89.72	90.73
Block 2	91.26	83.62	89.72	90.33	91.88	82.71	81.68	88.40	91.62
Block 3	--	--	--	--	--	--	89.58	92.12	83.60
Block 4	--	--	--	--	--	--	--	--	92.64
Coefficient of the plant's needs, in percent***									
Block 1	10.79	8.05	7.52	7.51	7.24	7.37	7.47	7.45	
Block 2	9.13	7.62	7.45	7.33	7.38	7.13	7.31	7.60	
Block 3	--	--	--	--	--	--	7.76	7.74	
Block 4	--	--	--	--	--	--	--	7.58	
In all	10.39	7.81	7.48	7.41	7.31	7.28	7.52	7.59	7.44

* average annual capacity

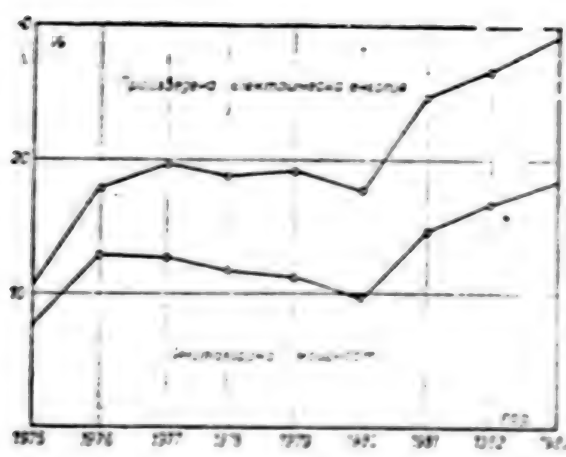
** average annual installed capacity 420 MW per block

*** included in this number are starting periods and times of the work's capacity effect

The Kozloduy Atomic Power Plant plays a substantial role in improving the technical-economic indicators of power, in its intensification. For example, during the last 5 years, installed atomic power has increased from 10 to 18.36 percent of the general electrical producing capacity in the country, and the electrical power produced by atomic power plants from 17.7 percent to 29 percent of the total electrical energy production. The high coefficient of usage of installed capacity at the atomic power plant allows for the possibility of increasing that coefficient for total electrical energy by 4 to 6 points in comparison with the coefficient of usage by conventional power plants. For example, for 1981 and 1982, the CIC in electrical power production amounted to 41.07 and 43.80 percent; at the atomic power plant it was 82.71 and 79.83 percent; and for power supply in general the figures were 46.58 and 49.74 percent.

The Kozloduy Atomic Power Plant participated strongly in covering the loads during the fall and winter season. For example, during the periods from January to March and October to December, the Kozloduy Atomic Power Plant with its 18.36 percent of installed capacity covered 25.2 to 28.5 percent of the load chart [4].

The electrical energy from the Kozloduy Atomic Power Plant reflects very favorably on the economic indicators for electrical power production in our country.



Electrical energy produced

Installed capacity

Year

Relative portion of installed capacity and electrical energy produced by the Kozloduy Atomic Power Plant

From the comparative tables (Tables 4,5), prepared on the basis of the latest data [2], one can see that our atomic power plant, according to its basic technical-economic indicators, is outstripping the average world level and is drawing near to the leading Soviet plants with VVER-440 reactors.

Table 4. Coefficient of capacity used at atomic power plants around the world (PWR), in percent

Country	1980	1981	1982	1983
All countries in the world except for CEMA	59.3	61.9	60.0	59.2 (first 6 months)
Bulgaria (Kozloduy Atomic Power Plant)	82.15	82.71	79.83	83.76 (whole year)

Table 5. Average annual production of electric power from one VVER-440 block during the 1982-1983 period, in billions of kWh/year

Plant	total 1982-83 period	1982 only	1983 only
Novovoronezhka APP (3rd, 4th blocks)	2.993	3.035	2.950
Kolska APP (1st, 2nd, 3rd blocks)	2.865	2.592	3.138
Armenska APP (1st and 2nd blocks)	2.107	2.240	1.971
Rovenska APP (1st, 2nd blocks)	2.103	2.080	2.126
Kozloduy APP (1-4 blocks)	3.041	3.000	3.079
Kozloduy APP for the last few years	3.048 average annually per block		

There are a number of factors which lie beyond the outstanding and stable results from 10 years of the Kozloduy Atomic Power Plant's operation; the most important ones are:

First, the high quality of the designs, the furnishings, the construction-fitting and starting and adjusting operations.

Second, the total organization of the use, application of Soviet principles in the organization of production of atomic energy sites, the selfless fraternal assistance of the Soviet specialists.

The organization of repair activity plays a significant part in the constant improvement in the technical condition of the installations, their technical preparedness. During this period, a number of operations to modernize the installations and to increase their security were carried out. All of the hermetic chambers were replaced, as were some of the flanges on the collectors in the steam generators in the first and second blocks. The technology for disinfecting the installations was perfected, a number of original devices for mechanizing and automating repair operations on the reactor and other devices on the first circuit were developed. The Kozloduy Atomenergoremont team developed a unique device, following Soviet designs: a container for checking the body of the reactor. It should be pointed out that the first model of this type of container (mechanized) was developed precisely here in this country. Together with Atomenergoremont, we carried out the reconstruction of the steam distribution in the turbines, carried out a number of operations on their channeling parts, so that the time between repairs was lengthened. A number of modernizations and reconstructions were also carried out on the pipelines, the armature, and the technological diagrams. Based on the analysis of the electrical diagrams, corresponding changes in the electric power supply were introduced. The security of the control measuring instrument was increased, as was dosage metering.

A system for planned preventive repairs (PPR) was worked out and implemented. The planning, accounting, control, and resource provision for the PPR was carried out with the help of computer technology. The periods between basic repairs of the devices and recharging of the reactors with fuel are being constantly shortened and are approaching the achievements of the leading Soviet atomic power plants with VVER-440 reactors. All of this leads to an increase in efficiency and the indicators for the work of the Kozloduy Atomic Power Plant.

The organization of the operative use is a basic factor in the optimum load capacity at which the plant can operate without accidents and safely. The organizational forms and principles for operative control, which we adopted from the Soviet atomic power plants, have been developed with a view to our own conditions. For example, a special operative unit was created, consisting only of engineers who have had special training. They make up the total operative leadership of the shifts, and they are directly responsible to the director of operations. Practice shows the expediency of this form of organization.

The basis of production activity is optimizing the planned task for every shift according to specific conditions.

Educating the collective, its individual members, raising their professional level, and their sociopolitical activity, is the focus of attention for the party organization and the leadership of the Kozloduy Atomic Power Plant.

The operating collective is formed at the same time as the plant is being built. At the beginning the circle of specialists who were acquainted with nuclear technology was very small. The basic staff was selected from cadres working on conventional forms of power supply. And today, when we have a significant number of cadres which specialize in atomic energy, workers and specialists have come from the power system, they are among the very best, especially in repair activity and operation of the turbines, chemical and electrotechnological equipping.

Six-month courses were organized for all specialists with a higher education; these courses cover the basics of atomic energy as the first stage of their instruction. The second stage covers the instruction of all the basic specialists and workers at the Novovoronezhka APP, in the USSR. The third, most active stage of training was participation in the starting and adjustment operations, training in operation documentation and operation organization. The last two stages were conducted under the direct supervision of Soviet specialists. In this cycle of training, many useful forms of cooperation and general responsibility were created.

The pride of our atomic power supply is the fact that the first block of the Kozloduy Atomic Power Plant was built and brought into operation by Bulgarian personnel under the guidance of Soviet specialists.

The prospects for the development of atomic power put new and complex tasks before our science. The complex technology, the particularities of the nuclear process, and the accompanying factors place high requirements on the intellectual level of the production and the scientific-technical training of the people who manage it.

Our scientific institutes oriented themselves in time to the problems of atomic power and directed themselves to the basic issues in the theoretical sphere and in engineering-application activity. The scientific elaborations are grouped in several tendencies.

Problems of thermohydraulics, thermal physics, and safe operation of the active zone are being worked out by the Energy Design Scientific Research, Planning, and Design Institute for Power Project Construction, the Institute for Nuclear Research and Nuclear Power Industry of the Bulgarian Academy of Sciences and the Kozloduy Atomic Power Plant. The same organizations are working on matters of the reliability and efficiency of the safety systems.

The water chemical and radio chemical problems are a subject for the combined activity of the Higher Chemical Technical Institute in Burgas, the Tekhenergo Scientific Production Enterprise and the Kozloduy Atomic Power Plant.

The general problem of radioactive wastes is managed by the Institute for Nuclear Research and Nuclear Power Industry of the Bulgarian Academy of Sciences.

The Lenin Higher Machine-Electrical Institute, together with specialists from the atomic power plant, works on electrotechnical problems.

Among the most effective elaborations of the engineers and physicists at the atomic power plant are the operations on optimizing the fuel campaigns and the work regimes of the nuclear reactors in the energy system. As a result of their application, broader use of the nuclear fuel than provided for by the design indicators, and economy of fuel and maximum electrical production in an annual cross-section were achieved. The experience accumulated has become the foundation for further perfection of the fueling process with simultaneous two-way usage of cassettes that are burning down. The new elaboration was implemented in 1984 during the recharging of the reactors in the third and fourth blocks. In addition to the better burning of the fuel, weaker neutron irradiation of the reactor's body was also achieved. Now the task of increasing the depth of burning of all the cassettes and the simplification of the operations for recharging the fuel is being solved, as is the task of lengthening the fueling campaigns.

The activity in the field of theoretical elaborations has also achieved results. At the institute for Nuclear Research and Nuclear Power Industry at the Bulgarian Academy of Sciences, they are working on the perfection of computer methodology. Precise output data on the depth of the fuel burning, defined by direct measurement, are needed for precise computations of the active zone. This problem is being successfully resolved by the Institute for Nuclear Research and the Nuclear Power Industry.

In the scientific research and scientific production activity in the field of atomic power, it is clear that the assistance rendered by the Soviet institutes and scientific organizations, especially the Kurchatov Atomic Power Institute, the Higher Technical Institute, the Energy Scientific Industrial Trust, the Institute for Biophysics in Moscow, etc., has been particularly important and valuable.

The role of international cooperation within the framework of CEMA and with other countries was enlarged. The scientific-technical cooperation with the Soviet Union is particularly helpful. The participation of our specialists in international forums becomes more and more active. More and more interest is being displayed in the Bulgarian experience.

During the 10-year period of the Kozloduy Atomic Power Plant's operation, the questions of safety, its concept and results of its application have been further developed. For example, three independent safety systems have been planned for the design of the Kozloduy-2 Nuclear Power Plant (third and fourth blocks), which include technological and electrical systems, checking, protection, control, and signaling systems. A reserve block shield has been introduced for system control.

Each of the three systems provides for safe stopping and cooling of the nuclear reactor; however, the operation of the power block at capacity is permitted only with at least two of the working systems; taking the third one out for repair or for some other reason is done for a limited amount of time.

During the course of operation, the work of the safety systems was analyzed, and a number of measures were improved. The work in this direction will continue because the task of increasing nuclear safety is among the most up-to-date tasks of nuclear power engineering.

Radiation security inside the atomic plant, as well as the area around it, corresponds to the most precise safety requirements. The emission of radioactive products into the environment raises the natural level by only 0 to .002 percent; this amount is arrived at by calculation, because its insignificant value cannot be measured instrumentally. Measurements around the Kozloduy area register mostly the pollution from the thermoelectric plant in the city of Lom. This again confirms the fact that, as shown by world experience, ecological pollution from thermal plants is higher than that from nuclear plants.

This is the sense of the joint research with the Institute for Biophysics in Moscow. The amount of radioactive substances measured in the exhaust (thermal) canal of an atomic power plant is significantly lower than the permissible concentration of radionuclides in water that is used for agricultural irrigation; thus, using the water from the thermal canal in the national economy is totally feasible.

The results from the operation of the Kozloduy Atomic Power Plant achieved thus far reflect the creative efforts of the specialists, workers, and managers participating in the design, building, and operation of the plant. The analysis of these results shows, however, that there are even more capacities of considerable dimensions beyond. What has been achieved is not the limit. There are possibilities in the repair area, that is, in terms of schedules, quality, scientific organization, and cadre training.

A summary of the experience of 10 years of operating the plant lays the groundwork for the following basic conclusions:

The Kozloduy 1 and 2 Atomic Power Plants, equipped with the VVER-440 serial blocks, are reliable and safe for operation.

The reliability indicators of the power blocks are confirmed by their operation, despite the discrepancy between the design and the real working conditions.

There exist additional capacities and possibilities for increasing the technical-economic operating indices of the Kozloduy Atomic Power Plant.

The transformation of the plant into an atomic power complex is characteristic for the development of the Kozloduy Atomic Power Plant, the "Bulgarian signature," so to speak, in building. The structures of the Unit for Repair of Power Equipment and Production of Spare Parts grew out of work at the site of the Kozloduy Atomic Power Plant. In addition to the repair activity at the atomic power plant, this unit plays an extremely important role in building new blocks. A new collective was created here, of Atomenergoremont, which makes a significant and concrete contribution to the present and future of nuclear power engineering.

New units of the Directorate for Investment Control were built and expanded; investment activity is being improved; its role increases according to the party's formulations.

A new enterprise, Energoavtomatika, will be further developed for servicing the automated control complexes of the atomic power plant.

Another significant achievement is the organization of the Energy Construction Assembly Administration on the site of the Kozloduy Atomic Power Plant; this will be the main executor of nuclear power sites in the country.

An education and training center is being built.

The creation of a starting-adjusting enterprise for the Atomic Power Plant and also a scientific production enterprise are at hand.

This comprehensive approach in building the Kozloduy Atomic Power Plant is more proof of the purposeful and consistent policy in the field of nuclear power engineering. It is also proof of farsightedness: what was built here not only will serve the Kozloduy Atomic Power Plant, but will also be the foundation for future atomic plants.

The scale, rates of work, and practical results from what has been achieved in nuclear power engineering in our country are great. The prospects, however, are even more impressive. The second stage at the Kozloduy Atomic Power Plant will include building with VVER-1000 blocks. Bulgaria is the first country within CEMA (except for the Soviet Union) to begin building atomic power plants with such reactors. It is likely that, as a pioneering country, we will be the first to encounter some problems. The experience from the first stage, however, and the unqualified support of the Soviet Union are a guarantee that we will resolve these problems.

At the present time, true combat is taking place at the fifth block of the Kozloduy Atomic Power Plant; 6,000 people are struggling to achieve the ultimate goal, implementing the first unit of a million on the eve of the 13th Congress of the Bulgarian Communist Party. Illustrious collectives, which have received high state recognition and trust, are working at the site of the Kozloduy Atomic Power Plant. And the people's trust obliges us to fulfill the task assigned on schedule. What is even more, we have before us the fraternal Soviet shoulder, experience, and example.

Using the atom for peaceful purposes is one of humanity's brightest prospects. World tendencies show the widespread possibilities for nuclear power engineering. Fast neutron reactors are operating successfully; in the near future the first atomic plant for supplying heat will be set in operation in the Soviet Union; high temperature reactors are being developed for the needs of chemistry and metallurgy. The questions about variable energy loads for atomic power plant consumers in the basic mode of operation are being resolved successfully. These prospects are stimulating, inspiring, and an inexhaustible source of new ideas and successes.

Our 10-year anniversary coincides with the noteworthy 40th anniversary of 9 September. We are proud that the collective of the Bulgarian atomic power plant, which was built only 10 years ago, has its own meritorious share in the great deeds of our people, and we will not spare efforts directed toward the victorious socialist progress of our dear fatherland.

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CSO: 2200/17

PARTY DAILY CHASTISES SUBSTANDARD PRODUCTION

Sofia RABOTNICHESKO DELO in Bulgarian 29 Oct 84 p 1

[Editorial: "Counterplans in Deeds and High Results by the End of the Year"]

[Text] There are 2 months remaining till the end of the year--time in which the indicators of the Integrated Plan for the Socioeconomic Development of the Country are going to have to be completely achieved. Now is the time to draw up a balance sheet on which the pluses and minuses in economic activity can be seen and to size up how counterplans have been fulfilled and what potential reserves can be turned to account in November and December. On this will depend how we fulfill the great economic and social targets for the year in which we celebrate the memorable anniversary of the victory of the socialist revolution in Bulgaria.

What are the main conclusions from the analysis of the results of counterplan fulfillment thus far?

To begin with, the achievements in all sectors of the national economy and scientific sphere in solving important problems of the living standard and spiritual growth of the entire society are outstanding. Industrial commodity output in 9 months increased 4.6 percent over what was achieved last year. In some sectors like ferrous metallurgy, machine building and the chemical industry these indicators are nearly twice as large. Significant results have been achieved in transportation, trade, agriculture and other sectors.

The basic question is where to concentrate the resources and energies of the workforces so as to achieve high production efficiency and quality everywhere and in everything and fulfill the counterplans in respect of all indicators.

The paramount demand on economic organizations is to get rid of obstacles and assist enterprises in their efforts to obtain output of the highest quality, which will, in the requisite physical volumes and at the requisite times, be made available to the economic organizations in the domestic and in the international market. National income depends to a great degree on export and import balances and on their high efficiency.

Disruption of the targeted proportions creates the chain reaction that we know so well of failures, not in one or two enterprises, but in the physical and financial balances of the state. Despite the growth in the rates of production,

phosphorus fertilizers, construction materials, soda ash, generating sets, engines, buses and other products were not turned out as targeted. This will no doubt cause difficulty in some economic areas. The task is to effect a speedy reorganization and estimate the possibilities and potential reserves for a production increase.

The main task facing production now is its quality, the strictest compliance with standards, and a rise in the level of every product to world standards. This problem stands out still more forcefully as we approach the end of the year and the results of the work of every labor force, of brigades and links are clearly visible. It is only proper for everyone to ask himself: what has been done to fulfill the Party Long-Term Program for Quality Improvement Everywhere and in Everything; what is the scale of product updating; to what extent do new products measure up to present-day world achievements; and to gauge how they are accepted in foreign markets and what our consumer's opinion is. There are quite a few workforces, economic organizations and managements where there is more talk about quality, but considerably less actual change.

Is it not already as clear as can be that the old approaches and deadlines for product updating and quality upgrading not only are no good, but also harmful? Updating, according to modern economic concepts, is a matter of direct transition to a higher level, to the best world standard.

Quality is both the economic manager's "face" and the actual abilities of a workforce and economic organization, it is the certification of the ministry and department's activity. What reasons can explain why in 9 months of the year the proportion of updated products is very small in comparison with the demands and the real abilities? Losses from substandard output are over 40 million leva, and claims alone are valued at about 3 million leva! But even this is not the worst calamity. Worse is the harm from the approach and attitude towards these important problems of the organizers of production, of those who produce and evaluate output. Who permits output that does not measure up to standard to leave the enterprises? How can economic managements, brigade leaders and controllers stamp no-good products with the name of their enterprise? Whom do they want to deceive--the state, society, the consumers? The rule of the economic mechanism that substandard output cannot be included at all in the indicators for the fulfilled plan is valid everywhere and must be upheld as law. It can figure only in reports of damage and losses caused to society and the workforce. And nothing else!

What are the ways that can bring every economic combine, enterprise, sector to the level of highest achievements? The main factor is rapid mastery of the achievements of modern scientific and technical progress, of new technologies, and full and timely information about top world achievements. Only in this way will it be possible to get high quality, rapid growth of labor productivity and intensive development in all areas.

A very essential factor in plan fulfillment is the economical and economically most advantageous use of materials, labor and financial resources. It is known that about two-thirds of the production cost of output is the inputs of materials, energy and raw materials. The socialist competition of

workforces has considerable experience and tradition in the movement for economies and in reducing physical inputs. For years on end the enterprises in Plovdiv have been working for the efficient use of physical resources and they have definite high achievements. Many tons of metal, raw materials, fuels and electric energy have been saved. A task of prime importance is to study this experience and disseminate it on a mass scale, to make it the practice in every collective.

It cannot be accepted as the normal state that physical inputs into production should stay at the same level and that frequently in our country more raw materials and supplies, more labor are invested than in other countries. This year the reduction of physical inputs in a number of sectors is negligible. Instead of achieving 2-3 points, which is fully possible, some sectors report only 10 or 20 stotinkas per 100 leva of commodity output! Especially unsatisfactory is the situation in enterprises of light industry, the national agro-industrial complex and in other spheres. There can be no compromise with such adverse trends, for they reduce the country's abilities to solve its important economic and social problems.

The facts show that the wrong attitude toward physical resources has not been conclusively overcome and that they are regarded by some people as an inexhaustible state storehouse that can be drawn on with no exact account rendered on what the results will be for the state, for the national economy or for the workforce. Nor have the requirements of the economic approach, of internal profit-and-loss accounting, of the economic mechanism been put fully into operation so that everybody will look at the greatest resources of the state with the eyes of somebody else.

The comprehensive analysis of the economic and social results of plan fulfillment is an urgent task of managements, economic councils, all organs of the workforces. A key role in this self-appraisal of the workforce falls to the communists and to party organs and organizations. They must take the lead in self-critical inspection of the state of production and must encourage initiatives of the workforce for overall fulfillment and overfulfillment of targeted indicators by the end of the year. The counterplan is the pledged word, the duty and honor of every workforce, of economic managements, of public organizations. Its targets contain well thought-out ideas and proposals, the creativity and initiative of all workers and specialists. This is the surest gage that all latent reserves will be utilized and turned to account to the utmost. We all expect and must work to finish the anniversary year of the socialist revolution with the highest contribution to the 5-year plan, to the dynamic and upward development of the homeland!

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CSO: 2200/40

PROSPECTS FOR FERROUS METALS EXPORTS ANALYZED

Sofia RABOTNICHESKO DELO in Bulgarian 5 Nov 84 p 4

[Article by Dimitur Balyuchev: "Metal Quality; What Are the Prospects and What Must Be Done?"]

[Text] In the past few years our country has been one of the leading exporters of ferrous metals on the world market. From 748,000 tons in 1970 Bulgarian exports of metallurgical output reached 1,080,000 tons in 1982. The variety expanded with the increased volume of exports. Our export list of commodities includes a number of types of ferrous metals with a higher degree of processing. This includes zinc-plated steel sheets, tinplate, structural carbon steel sheets, cold rolled steel bands, and others. In the future, as ferrous metallurgy increases its volume and variety, not only will our domestic requirements be satisfied better but we could expect an increase in our export resources. Our increased exports in physical and value terms will depend most directly on coordinating most closely our output with the requirements of the world market. What could be assumed as of now relative to such steadily growing requirements?

Low growth rates in world consumption and world trade in ferrous metals may be expected on the international market for 1985-1990, paralleled by a considerable amount of unused production capacities in the developed capitalist countries and sharp competition among exporters. It is likely that in 1990 world consumption will be 4.6 percent higher than in 1985, which means that the average annual growth rate will amount to no more than 0.9 percent. This low anticipated pace will be due to the influence of scientific and technical progress. In all likelihood, the first trend of this influence will be reduced relative metal outlays (i.e., amount of metal per unit of finished product) in consuming sectors, as a result of the utilization of ferrous metals with improved mechanical properties. Already now reducing the weight is of particular importance in automobiles and road-building machinery and railroad cars, in shipbuilding and other sectors, for this reduces fuel expenditures. The savings achieved on a global scale from the use of metallurgical goods with improved mechanical properties has reached 15-20 percent in recent years. The other trend is the further increase in the extent to which ferrous metals used as structural materials will be replaced by competitive materials, plastics above all, which have higher qualitative characteristics. Some producers, such as the Toyota company in Japan, are already developing a nonmetallic model of passenger cars to be marketed during the 1990s. In this model all metal parts will be replaced by parts made of plastics, ceramics or carbon fibers.

Realistic assessments confirm that difficulties in exporting ferrous metals on the world market will increase in the future. Bearing in mind such a developing difficult situation, producers in the industrially developed countries are taking steps to upgrade their competitiveness on the international market. In order to meet the steadily rising requirements of customers in terms of the quality of metallurgical output, they are developing new types of steel of higher quality but relatively lower international prices. They have already created an interest in consumers in various sectors by offering a number of new brands of low-alloy steels which are superior to carbon steels because of their better mechanical features, higher strength, resistance to corrosion, welding facility and shock resistance and plasticity in particular. The use of low-alloy rather than carbon steels saves up to 20 percent in metal use. Machines and structures made of such steels are lighter as well as more durable, stronger and more anticorrosive.

Producers in the leading countries are in constant touch with ferrous metal consumers in order to be able to react promptly and successfully to all changes in their requirements concerning quality and variety. It is standard practice to produce metals with quality characteristics demanded by the clients. It is inadmissible for traditional suppliers to the world market to offer goods with substandard quality indicators. In such cases they are forced not only to sell at lower prices but take the risk of losing their reputation as first-rate suppliers, something for which they care a great deal. Some established producers are offering metallurgical goods with higher quality indicators compared to the standards of the leading producers.

Clients on the world market usually demand the metallurgical goods to be consistent with their national standards. The reason is the existence in each country of a direct correlation and interconnection between ferrous metal standards and the standards of finished goods (such as machines, automobiles, electrical household appliances, etc.).

The contacts established between some producers and consumers are exceptionally direct and close. It is a usual occurrence for producers to send their customers samples of developed new steel brands for testing and subsequently to receive their evaluations and recommendations. As a result of such contacts, the Japanese metallurgical companies recently developed a zinc-plated steel, the lining of which consists not of zinc but a zinc alloy, used in the manufacturing of passenger car bodies. They were thus able to achieve a higher resistance to corrosion.

The worsened conditions for the sale of ferrous metals on the world market demand and will require in the future the even more urgent taking of a number of steps to upgrade the quality and expand the variety of Bulgarian metallurgical goods produced for export. Under the new market situation, more difficult for exporters, our foreign partners must be offered ferrous metals with quality indicators whose standards meet those of the leading countries. Such metallurgical output, of high quality and extensive in terms of brands and dimensions, will enable our exporters not only successfully to trade in the world market but also to upgrade their export efficiency.

MINISTER VIEWS RESULTS OF ENERGY INDUSTRY

Prague HOSPODARSKE NOVINY in Czech No 36, 1984 pp 1, 7

[Article by Eng Vlastimil Ehrenberger, minister of fuel and power of the CSSR: "A Balance That Is a Commitment"]

[Text] For the more than 300,000-member collective of employees of these industries, Miner and Power Industry Worker Day is becoming not only a holiday with a long tradition but also a day for critical evaluation of the pluses and minuses in the work of the past year, and a chance to do some creative thinking about the upcoming year. This year's retrospective is a happy one because all branches of this sector have fulfilled their tasks and are continuing to do so.

Mining Record

Last year saw the extraction of the most coal and lignite in the history of our coal industry, 127,385,000 tons. This fulfilled the plan by 102.8 percent. The concern enterprises of all Czech and Slovak mining areas fulfilled their extraction targets. The brown coal and lignite mines, which for the first time in their history mined more than 100,000 tons, achieved particularly significant results. Their output represented about 10 percent of total world extraction of brown coal. After several years of terrible difficulties, stripping and mining operations in the Most North Bohemian Brown Coal Mines have been straightened out, and production targets substantially overfulfilled. In addition to the usually excellent performance of the miners at the Sokolov Brown Coal Mines and Briquetting Plants and the fulfillment of ambitious targets at the Prievidza Coal and Lignite Mines, overall performance has made it possible to fulfill, ahead of schedule, the guidelines of the 16th CPCZ Congress, which projected the extraction of 99-100 million tons of brown coal only in the final year of the Seventh 5-Year Plan. It should be noted, however, that extraction levels at surface mines were favorably influenced by dry weather.

The fact that all mining operations have exceeded plan targets does not mean, however, that this extraction was achieved without its share of problems. In the underground mines of the Ostrava-Karvina basin, anomalous concentrations of tension in the earth mass have caused and continue to cause great difficulties. The sudden release of this tension causes tremors which

resemble minor earthquakes. Similar phenomena have occurred in the Prievidza Coal and Lignite Mines, such as the fracturing of andesite plates in the overburden of the Cigel Mines this past July. The resolution of these and other problems of extraction at great depths and under complex technical mining conditions requires close cooperation between the research sector and equipment suppliers, especially those in the machine building and electrotechnical fields. This suggests that an appropriate organizational form for this work would be associated workplaces, which would bring together employees of our sector with those of the CSAV, the Czech Office of Geology, the Czech Office of Mines, and supplying organizations. One such work site is studying tremors in the Ostrava-Karvina Mines, and a second the stability of banks related to the expansion of bituminous coal strip mines at the foot of the Krusne Mountains.

The technical resolution of these mining problems is also a precondition for the further reduction in overtime work, especially in underground mines. A number of organizational measures have made it possible to reduce the number of working Saturdays while increasing the length of miner's vacations, compensating for the amount of overtime work.

By increasing production to more than 2.5 million tons in excess of the plan, miners this year will have to provide fuel to steam electric power plants to compensate for shortfalls caused by the delayed construction of generating units at the Jaslovske Bohunice and Dukovany nuclear power plants. This involves building up inventories of 4 million tons of brown coal and 1.3 million tons of bituminous coal at the storage facilities of power plants before winter sets in. So far the miners are on schedule.

These positive coal industry results are due to the attention and concern devoted to this issue by the highest party and state organs, the commitment and initiative on the part of work collectives, improved organizational and managerial work and, last but not least, excellent cooperation with the transportation sector. Other sectors have also been of considerable assistance. This has been most evident in the increased reliability of the mechanical and electrical components of stripping equipment. At present, the crews of model TC 2 stripping units at the Chabarovice Mine in the North Bohemian Brown Coal Mines or at the Jiri Mines in the Brown Coal Mines and Briquetting Works are approaching a monthly output of 1.5 million cubic meters of surface earth. The level of 1.5 million cubic meters will almost certainly be reached by the second half of the year.

With the assistance of the construction and water and forestry sectors, the relocation of railways, roads and even the Bela River to a 150-meter-high bank in the Ervenicky Corridor has been completed. This freed up space for the further enlargement of the Jan Sverma and Czechoslovak Army strip mines.

Employees of the uranium division have also achieved significant results. They have performed their mining tasks under difficult technical conditions and have been able to transmit this operational and technical expertise to other divisions of the sector.

Results of Commitment

In 1983, 76,278 gigawatt hours of electricity were produced. The supplying of the national economy and the population with electricity and heat went smoothly throughout the year. To do so, however, required a high level of commitment from power industry workers, along with considerable ingenuity.

Exceptionally dry weather made projections of the production of electricity from hydroelectric plants inaccurate. A problem with the steam generators at Jaslovske Bohunice toward the end of the year caused minor production shortfalls at a critical time. The year began on the Povazsky Cascade with a deficit of about 100 million cubic meters of water. The situation is similar along other water flows, and has resulted in production shortfalls both at the V-2 unit at Jaslovske Bohunice and at Dukovany.

We therefore have had to shift production to steam power plants in order to maintain smoothness of delivery. This will affect the maintenance and reconstruction programs for these plants, and will force us to utilize fully several older power sources with higher standard fuel consumption. Consequently, to meet the planned consumption figures of 375 grams of standard fuel per kilowatt hour in 1985 will require considerable effort. This very tight situation in the power industry once again shows that solutions have to be sought in the area of consumption, not supply.

Heat supplies were, on the whole, satisfactory. Favorable weather conditions, namely average temperatures that fluctuated above 50-year averages, helped alleviate what was a rather tight situation with regard to heat sources. By the same token, the cool weather of the first half of this year resulted in consumption which has been in excess of planned levels.

The responsiveness of power industry workers was once again displayed in their repair of damage to electricity distributors caused especially in Southern Moravia and Eastern Bohemia by floods and wind storms there in July of this year. It was necessary to spend 25,400 man hours on the emergency repair of 316 serious line disruptions at high voltage distribution facilities, and 5,790 disruptions at low voltage distribution facilities.

In addition, the gas production and crude oil industries of the CSSR showed themselves to be highly efficient members of the fuel and power complex. Last year they succeeded in meeting the requirements of the population and the national economy. Only in December, when daytime temperatures dropped far below their long-range averages, did the consumption of large consumers have to be regulated. This favorable supply situation was made possible by smooth deliveries of natural gas from the Soviet Union, the problem-free operation of production and distribution equipment, and the capability to manage deliveries and distribution tanks effectively, especially when the air temperature drops precipitously. For this reason, the goal of filling underground tanks with up to 1.8 billion cubic meters of natural gas in the summer months, thereby assuring an initial extraction rate of 16-18 million cubic meters per day, has received top priority.

The results for the first 6 months of the year indicate that the gas industry will fully meet its targets. This is made more difficult by the fact that the industry manages two distinct gas production systems, one for natural gas and one for coal gas. The coal gas system is gradually being converted to natural gas, although supplies for its remaining customers must be maintained even at times of peak demand. Moreover, the carrying capacity of long-distance gas pipelines which cross our territory to countries on our western border is continually being increased.

Demanding Investment Projects

In 1983, more than Kcs 20 billion was invested in the development of the fuel and power complex. The First of May Mine was opened in Darkov in the Ostrava-Karvina Mines with a capacity of 3.23 million tons of bituminous coal annually. Construction at the Czechoslovak Army, Most and Chabarovice open pit mines in the North Bohemian Brown Coal Mines expanded the brown coal production capacity of this area by 4.8 million tons. Investment resources were also allocated to the development of the Jiri Open Pit Mine in the Sokolov Brown Coal Mines and Briquetting Works. New construction will have to replace about 15 million tons per year no longer available from exhausted sites at the foot of the Krusne Mountains.

The construction of mines or of new levels at great depths or in new fields, such as is the case in the older portions of the Ostrava-Karvina Mines and in the opening of Beskid coal deposits or of the Slany Mine at Kladno, involves a new set of problems. The same is true at deep open pit mines such as the Maxim Gorky Open Pit Mine or the Czechoslovak Army Mine in the Most region, or with the extension of open pit mines which have come into contact with strata containing thermal springs, such as is the case with the Jiri Open Pit Mine in the Sokolov region.

The construction of the transit system for the shipment of Soviet natural gas across the territory of the CSSR is also proving to be difficult. The carrying capacity of this system will be gradually increased to 68 billion cubic meters by 1989.

Our sector is devoting particular attention to construction projects related to assuring centralized sources of heat. Important targets have been met at the Brno-North II and Prague-Holesovice plants. The state plan breakdown includes plans for putting facilities with a total output of 620 tons of steam per hour and 85 megawatts of electrical power into operation this year at the Plzen II and Zilina III heating plants.

We consider the heating industry to be one of the most sensitive areas of our activity. In addition to quantitative development, it is also undergoing an important qualitative transformation. It is no longer feasible, in other words, to plan in terms of smaller, decentralized heating plants run on enriched fuels and located either within or close to the space being heated. Developments are clearly tending toward larger units which provide the cogeneration of electricity and heat. For this reason, steam condensation power plants will be rebuilt as power plants with bleeder turbines and remote

hot water distribution lines to neighboring apartment complexes and industrial plants. This concept offers the potential for large absolute fuel savings, assuming the use of lower quality power generation types of coal.

Problems With Nuclear Power

The most complicated investment problems, however, must be solved in the area of nuclear power generation. Following the successful startup and no less successful operation of our first nuclear plant, the V-1 unit at Jaslovske Bohunice, we have been unable to fulfill planned objectives in the construction of its second unit, or in the construction of the plant at Dukovany. The first V-2 unit, initially scheduled to begin operation at the end of last year, is only now beginning operations. The resultant shortfalls in power generation have been compensated for by increased production from condensational power plants. This is, however, a temporary solution that is not feasible over the long term. Nor can it be repeated because of the realities of our mining operations.

I think that the startup of this new reactor and the gradual attainment of its designed capacity right at the time of this year's celebration of Miner and Power Industry Worker Day will provide an important lift to the work of all employees involved in nuclear power plant construction. This enormous contribution of science and practical Soviet experiences cannot be allowed to be devalued by any sort of incompetence, complacency or narrow enterprise self-interest on our part.

We therefore are searching for other ways to raise the quality of nuclear power plant construction from investors, designers and suppliers. It has been shown, for instance, that improvements in operational decisionmaking at all levels of management can minimize design changes during the course of a project. The rapid and timely delivery and processing of high-quality design documentation from individual participants in the construction project is just as important as the delivery, on schedule, of high-quality equipment or the performance of high-quality construction work.

Mining, as few other traditional human activities, has undergone revolutionary changes through the application of modern science and technology. However, even in the most modern of operations the work is exhausting both physically and psychologically. Appropriate support programs must play a role in moderating and/or eliminating these influences.

An important step in this direction has been taken by the application of a series of measures to the further improvement of the available amenities, everyday and working conditions for employees in mining, as provided for in Czechoslovak Government Resolution No 41/1982. This has made an important contribution to the achievement of positive results in the recruiting of new employees and apprentices. This in turn assures the further growth of mining and the entire fuel and power complex.

MINISTER EHRENBARGER REVIEWS ENERGY SITUATION

AU311334 Bratislava PRAVDA in Slovak 30 Oct 84 p 2

[Alfonz Bednaric Report: "The Prospects Are Good, But Economizing Is Needed"]

[Text] Prague--At a press conference at the CSSR Government Presidium yesterday, Vlastimil Ehrenberger, federal minister of power and fuels, informed journalists about the present state of the miners', power engineering workers', and gas industry workers' preparation for the coming winter.

Coal

By 29 October our miners had extracted 3,381,236 metric tons of coal more than foreseen by the time plan. The North Bohemian Brown Coal Mines exceeded the plan by 2,599,000 metric tons; the SOKOLOV basin by 608,000 metric tons. There exist prerequisites for our miners to extract more than 128 million metric tons of coal by the end of the year, which would be a new record. It is a fact that good weather and the making available of a sufficient number of railroad cars by the railroad workers, and their timely pick-up, have had a favorable impact on the great overfulfillment of coal extraction and removal of the overburden in open-pit mines. However, the miner and his dedicated work and initiative were the decisive factor.

In view of the large overfulfillment of planned coal extraction, the planned stocks of solid fuels in electric power plants have been exceeded. By 30 September, power plants had 4.2 million metric tons of brown coal and 1.5 million metric tons of bituminous coal in stock. The coal stocks of the coal supplies enterprise are similarly good--so far, it has in its warehouses 266,000 metric tons of coal more than planned.

The fact that the North Bohemian Brown Coal Mines have 27.5 million metric tons and the Sokolov basin 4.6 million metric tons of coal ready for extraction in the forthcoming winter, too, provides a guarantee of trouble-free supplies of fuel, electricity, and heat to the national economy and households. Our stocks currently total 12,652,000 metric tons of solid fuel.

Electricity

Because of delays in the construction of nuclear power plants, we must rely chiefly on traditional power plants for the production of electricity. Although

the first bloc of the V-2 nuclear power plant in Jaslovske Bohunice has already supplied 200 million kilowatt hours of electricity to the power grid and should start its trial run by the end of the year, on the whole we will be short of some electricity from this nuclear power plant, electricity on which we originally counted. And because the hydroelectric power plants, too, are not fulfilling their annual plan (despite an overfulfillment for the month of October by almost 50 percent), we will have to handle every kilowatt hour of electricity as economically as possible--not only throughout the national economy, but in households as well. Managers and members of power inspectorates and energy commissions should not allow anyone to exceed the planned and agreed-upon consumption of electricity, let alone to use electricity for the production of unwanted goods. By 30 September, consumers exceeded the planned electricity consumption by 1.18 billion kilowatt hours. Steam power plants fulfilled their production plan for the first three quarters of the year by 102.2 percent, but they cannot keep exceeding this plan endlessly. It will be necessary to carry out in them general overhauls and routine repair work to head off the possibility of breakdowns. That is why the principle of energy applies.

Gas

Our gas industry has for years been a reliable link of our fuel-power system and, as is apparent, will maintain this position this approaching winter. Our underground reservoirs are filled with 115.2 million cubic meters of city gas, which means that 14.5 million cubic meters a day will be available in winter, provided that regular production is sustained. The underground reservoirs for natural gas, too, are brim full, containing 1.847 billion cubic meters of natural gas. Aside from this, the Soviet Union has promised to supply at least 25 percent of next year's deliveries in the first quarter of 1985. It will also deliver to us additional natural gas in exchange for Tatra-815 trucks.

Despite good prospects for overcoming the winter [without power cuts], bodies of the State Energy Inspectorate will very strictly check on the observance of both discipline in consumption and the principles of fuel and power conservation. Violators--these have so far included one in two organizations until scrutiny--will be subjected to harsh sanctions.

CSO: 2400/88

MAJERCIAK SPEECH TO ELEVENTH CPCZ PLENUM

Prague RUDE PRAVO in Czech 6 Oct 84 p 4

[Speech by Pavol Majerciak, CPCZ Central Committee member, leading researcher at the Research Institute for Animal Husbandry in Nitra]

[Excerpts] I welcome the agricultural development program which we are now discussing as a political and economic directive for our progress in the strategy of self-sufficiency. Its timeliness consists in the fact that it integrates all the branches participating in food production. Further upgrading of the work of research is given an important place in it.

I would like to point out some insights which are related to the success of securing the program of agricultural development.

From the perspective of inputs and function the most complex question of a program for feeding the population is the production of proteins--especially those of animal origin--that can be utilized in consumption. They constitute an irreplaceable part of human nutrition, but their production is more demanding with respect to material and energy. Even here, however, economics is determined by the effectiveness of making use of the domestic feed resources through productive types of livestock. Therefore, I fully support the principle mentioned in the report of the CPCZ Central Committee Presidium of progressively building feed reserves for the intensification and stabilization of the livestock production, so that fodder can be utilized by the animals in the most economic way.

To produce 1 kilogram of animal protein, on the average more than 8 kilograms of plant protein are used in this country. There still exist large differences in demand for the production of protein in milk and meat. Milk production represents the most effective conversion of feed into animal protein. Consequently, it is imperative to direct genetic-breeding work more emphatically toward increasing the efficiency of milk production, improving feed conversion, and the structure of slaughter stock necessary not only from the viewpoint of consumption, but also from that of lower requirements of energy and nutrition in its creation. Such requirements are answered by our newly bred strains of pigs and cattle, which in production account for a rise of as much as 10 percent in usefulness and, in the conversion of fodder, represent a savings of 3 to 5 percent when

compared with the original strains. The top breeds, among which a comprehensive, scientifically directed program of nutrition is put into effect, show substantially higher effectiveness. Priority development of beef cattle breeding with an aim toward milk production and toward combined breeds with a more pronounced aim toward meat, and the regulation of the production and consumption of pork and poultry characterize our contemporary structural rebuilding of animal production.

The high yield of cereal crops reached this year necessitates the creation of a long-term strategy for their effective use. Figures of the realized material balance show that even in the future up to 70 percent of cereal production will be utilized by animals. A decisive share will be utilized for the more economical production of pork, poultry and eggs, and the remainder as a processing additive in the production of milk and beef. Our studies prove indisputably that an effective utilization of feed resources can be achieved only by optimizing the proportion of some kinds of domestic animals. For example, a suitable combination of beef cattle with pigs will make it possible to produce out of one hectare of agricultural land up to 335 kilograms of meat, which is 34 percent more than when the feed-suitable plant production is utilized solely by beef cattle or solely by pigs. Similar advantages of balancing exist in a combination of cattle, possibly even sheep, with poultry.

The workers of the scientific research plant are systematically developing the findings of the biological and technological rationalization of agricultural production. However, the most timely, progressive and soundly realistic tasks for our research are in the development of biological technologies. The basic scientific problems on which the zootechnicians concentrate their attention in the area of breeding farm animals concern perfecting the methods of controlling reproduction, embryo transfer, and the eventual biological-technical mastering of the micro-manipulation of sex cells and embryos, making production of high-performance standard animals possible. The solution of these problems can in a revolutionary manner change the process of breeding, reproduction and production as well as the organization of farm animal breeding in agricultural enterprises.

In this country the time is ripe to gain rapid scientific, technical and applied mastery over these problems. On the basis of the 1982 CPCZ Central Committee document dealing with the development of natural sciences, especially genetics, a ministerial center for the development of biological technologies in animal production has been organized at the research institute of animal production in Nitra, into which workplaces of the Academy of Sciences, universities, biological service and agricultural plants have already been integrated. The task is effectively and quickly to integrate the process from scientific discovery through development and testing to implementation in production. In this way, human and material-technical resources are joined for the work of both the joint problem-solving teams and the executive integrated bodies as forms of cooperation, which have proved beneficial in the framework of the international teams of CEMA states. The basic program of the center is the transfer of embryos of beef cattle, systemic control of reproduction

and the expansion of the most recent findings of biology and genetics into the progressive technologies of livestock production.

Another area of activity is the effective utilization of basic nutrients in both bulk and grain feeds. For example, experiments are in progress dealing with questions about protecting protein from spoilage by microbes in first stomachs of cattle, which in practical application can bring substantial increases in production effectiveness.

At the same time, a possible way of more effectively utilizing bulky, fiber-rich feeds is through regulated microflora, i.e., through a more effective form of production of microbe proteins in the digestive tracts of ruminants.

The work of the center has been connected with the activity of our institute up to now in cooperation with directive components and biological services with respect to the solution of reproduction and embryo transfer, and with an increasing number of agricultural enterprises of the West Slovak Kraj and selected organizations in other krajs.

The comprehensive method of controlled reproduction increases the fertility of cows up to 9 percent. With embryo transfer we are now achieving up to three times the number of offspring from top milch cows.

As the output of research, in the Eighth 5-Year Plan the first three large-capacity stations for embryo transfer with a yearly production of up to 3,500 calves from top milch cows will operate in Czechoslovakia; this will emphatically speed and make more effective the progress in cattle breeding. A similar program is also being developed for other kinds of farm animals.

A task of increasing urgency for scientific and applied resolution is the protection and conservation of the gene pool of the suppressed and existing types of domesticated animals and game, and the elimination of genetically determined health impairments.

12634

CSO: 2400/32

KOUTNIK REVIEWS CSSR ECONOMIC PROGRESS

Prague HOSPODARSKE NOVINY in Czech No 38, 1984 p 3

[Article by Dr Josef Koutnik, CSc: "Convincing Results"]

[Text] In those memorable days in 1945, Comrade Klement Gottwald said that with the day of victory the Czech and Slovak peoples began a new era in their history, the most illustrious one so far, an era of true national freedom and independence, an era of the rule of the people and the free work of the popular masses, an era of the building of socialism. From the very first days of this liberated, peaceful life the Czechoslovak people began enthusiastically to rebuild, with the help of the Soviet Union, their war-ravaged economy and to build the foundations of a popular democratic state. They learned from their experiences and decided to embark on the path to socialism.

In the 40 years that have passed since the liberation revolutionary changes have taken place in our homeland. The long-standing aspirations of entire generations of fighters have been fulfilled, people who strove to establish a justly ordered society. Socialism has eliminated in our country once and for all the exploitation of man by man, and has set up a true democracy. Under the leadership of the CPCZ the working people have implemented fundamental changes in all aspects of political, economic, social and intellectual life. A new social structure has been created under the leadership of the working class, which in turn is led by the CPCZ, in close alliance with cooperative farmers and the working intelligentsia.

The Proof Is in the Numbers

Today the Czechoslovak Socialist Republic has immense economic and human resource potential. Between 1948 and 1983 the amount of generated national income increased by a factor of 6.2, and industrial production by a factor of 12.3. Agricultural production has increased by 50 percent since 1936. Labor productivity today is five times greater than in 1948.

Today 47.3 percent of the work force is employed in industry and construction. In socialist mass production agriculture, which has been equipped with modern methods and equipment (and including forest management), the percentage of total workers employed has declined from 42.4 percent in 1948 to 14 percent in 1982. The tertiary sphere now employs as much as 38.7 percent of all workers.

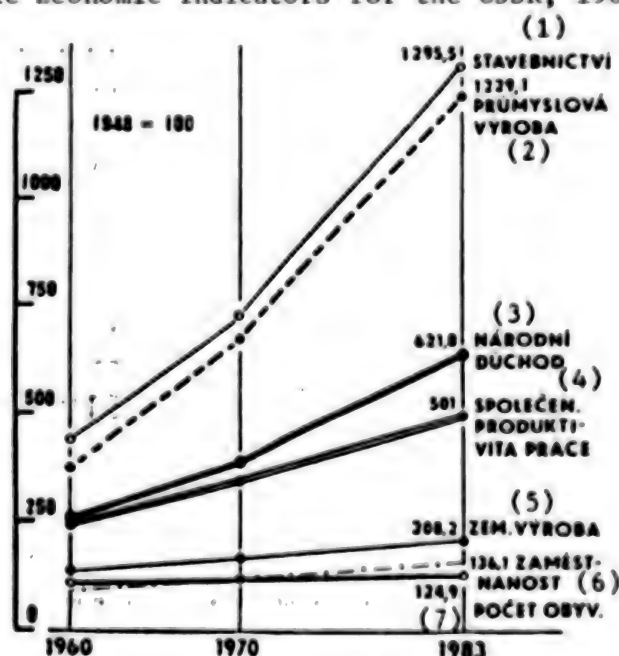
Out of each 1,000 workers, 229 work in industry and construction, 68 in agriculture and forest management, and 187 in the tertiary sphere. Research and development employs 180,000 people, or about 10 times as many as in 1948. The number of workers in the transportation and communications sectors has doubled.

Machine building and the electrotechnical industry have become the main industrial sectors. The volume of output of these two sectors has increased by a factor of 32 and accounts for about 32.1 percent of industrial production.

One of the fundamental revolutionary changes was the conversion of small-scale agricultural production to modern socialist mass production. Today united agricultural cooperatives [JZD] and state farms work almost 93 percent of all agricultural land, and the entire socialist sector controls almost 96 percent of all agricultural land. Between 1948 and 1982 Kcs 301 billion was invested in agriculture, or 11.6 percent of all investment in the national economy during this period. Labor productivity in agriculture increase 5.1 times between 1936 and 1982, and per hectare production increased by 67 percent. Agricultural production increased at a faster rate than the population during this period.

The basis for the development of foreign economic relations has become economic cooperation with the Soviet Union and other socialist countries. Trade with socialist countries now accounts for 75 percent of our total foreign trade turnover, with trade with the Soviet Union accounting for 42 percent of total foreign trade turnover. Since 1948 the physical volume of exports has increased by a factor of 14.3 and that of imports by a factor of 9.9.

Development of Basic Economic Indicators for the CSSR, 1960-1983 (1948=100)



Key:

- | | |
|--------------------------|----------------------------|
| 1. Construction | 5. Agricultural production |
| 2. Industrial production | 6. Employment |
| 3. National income | 7. Population |
| 4. Labor productivity | |

Between 1948 and 1982 more than Kcs 2.5 trillion (in 1977 prices) was spent on capital investment. Construction investment accounted for 64 percent of this and investments in machinery for 36 percent. The development of capital investment has been evident in the ongoing growth of the capital stock. Its volume has increased during this period by a factor of 4, while machinery assets have increased by a factor of 9. The value of machinery per worker has increased significantly, which has facilitated increasing labor productivity and improvements in working conditions.

Work and Its Enrichment

The expansion of the capital stock has generated the conditions for a rapid growth in total employment, changes in the structure of employment, and improved working conditions. Between 1949 and 1983 the population increased by 25 percent and employment by 36 percent. Today 485 out of every 1,000 individuals is involved in the production process. Women account for 46 percent of the total work force.

Working conditions have changed radically in all sectors of the national economy. The work week has shortened to 42.5 hours. The length of paid vacations has increased, retirement is possible at an earlier age, occupational training has improved, there is increased concern for occupational safety and health issues, social amenities are increasing, factory cafeterias are expanding, as is health care availability at factories and recreation. New day-care centers and kindergartens are being built.

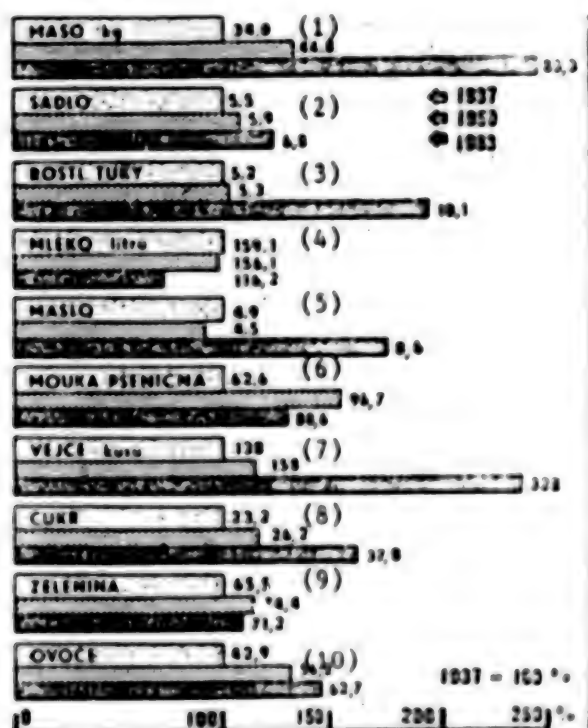
The dynamic development of the national economy, the growth in labor productivity and resource formation, have created the conditions for the implementation of the socialist principle of compensation according to work performance. Since 1948 the average wage has increased by a factor of 3.4 (exclusive of JZD's), and last year amounted to Kcs 2,790 per month. The average wage of agricultural workers has increased even faster and last year stood at 2,798 kcs monthly. Increases in wages and in the number of workers has increased work incomes. Since 1953 these have increased by a factor of 4.2, by a factor of 3.2 for the average worker.

Economic development and increased resource formation has made it possible to implement the extensive social program of the party. The enactment of this program has increased the certainty of the workers. Since 1953 transfer payments have increased by a factor of 7.1 and their growth rate has outstripped that of work incomes. In 1953 transfer payments to the population were 16.4 percent of work incomes, and increased to 28.5 percent of work incomes by 1982. Total money incomes of the population were Kcs 90.72 billion in 1952 and Kcs 393.53 billion last year.

To the total money incomes of the population must be added resources which the population obtains from public funds. These non-monetary forms of products and services that are provided free of charge plus total money incomes equal the total income of the population. Last year this figure reached Kcs 472.38 billion.

Roughly halfway through the 1950's food consumption reached recommended nutritional norms and has stayed above these levels ever since. Demand has been shifting to items higher on the food chain. This is evident in increased consumption of meat, milk, and milk products and eggs, in the consumption of vegetables and fruits and in the declining consumption or static consumption of flour and flour products. Food supplies today for the most part cover demand and food production is gradually adapting to the requirements of proper nutrition. The CSSR ranks among the leading economically developed countries in food consumption.

Per Capita Food Consumption in the CSSR (for 1937, 1950 and 1983 in kilograms, except milk in liters and eggs in units)



Key:

- | | |
|---------------------|-----------------|
| 1. Meat (kilograms) | 6. Wheat flour |
| 2. Fat | 7. Eggs (units) |
| 3. Plant oils | 8. Sugar |
| 4. Milk (liters) | 9. Vegetables |
| 5. Butter | 10. Fruit |

The possession by households of consumer durables has also reached quite a positive level. Last year, for instance, each 100 households possessed 139 electric washers, 106 refrigerators, 192 radios, 116 televisions and 47 passenger cars.

Progress in housing is one of the important achievements in the development of the standard of living. Systematic attention is paid to the resolution of the housing situation. Between 1948 and 1983 more than 3 million apartments were built, the quality and amenities of which have constantly been improved. Today

almost two-thirds of the population lives in newly constructed apartments. Average per capita living space has increased by about 20 percent. Newly constructed apartments and detached houses are well supplied with either central or floor heating, water, electricity, gas and modern apartment amenities. Earlier differences in the standard of living, including the standards of living in the cities and the countryside, have been for the most part eliminated. Almost 73 percent of the population receives its water from public water mains and more than 59 percent of all residences have been hooked up to public sewer systems.

Worker Certainties

The development of social security has significantly improved the system of basic public and social guarantees for our citizens. Great attention is devoted to families with children, and better conditions have been created for young people to begin their own families. The CSSR is among the leaders of the developed countries in the sophistication and scope of public assistance to families with children. The available maternity leave is one of the longest in the world. Today every woman in the CSSR has a right to a maternity leave during which she is paid 90 percent of her net pay for 26 weeks. This period is extended to 35 weeks for unwed, widowed, divorced, or otherwise single women. In many instances support payments are provided from birth, or if a mother is caring for more than one child, etc.

All families which properly care for children receive child care supplements. In 1973 and again in 1982 the amounts of these supplements were increased. In the context of propopulation measures, loans were made available as of 1 April 1973 to heads of household younger than 30 up to Kcs 30,000 at low interest rates.

In the area of retirement services, care for our senior citizens is improving continually. In 1969, 382,000 low-pension incomes were increased by an average of Kcs 147. The financial costs of this measure amounted to Kcs 790 million. An additional adjustment in 1971 increased almost 1 million low-pension incomes. The successful fulfillment of a program of economic and social development has created the preconditions for the adoption of a new law on social security which took effect in 1976. In terms of its scope it is the most significant measure in the entire history of our social security system since the adoption of the national insurance law in 1948. This new adjustment increased the standard of living for more than 3 million pensioners. The maximum limits for pensions were increased to Kcs 2,010, 2,150, and 2,500 monthly. The lowest pensions, if they are the only source of income, were increased to Kcs 880 for individuals and Kcs 1,500 for couples.

A second important component of social security is medical insurance, which covers all employed persons and JZD members. Since 1948 health care payments have increased by a factor of 13.4, with Kcs 7.4 billion spent in 1983 alone.

In its scope, sophistication and the quality of delivered services, the Czechoslovak health care system is one of the best in the world. Health is one of the basic preconditions of a healthy and creative life for the individual in

society and is an important factor in the development of the labor force. The right to health care is one of the basic civil rights currently guaranteed by the CSSR Constitution. The number of physicians has increased by a factor of 5 since 1948. In 1948 there was 1 doctor for every 1,158 citizens, now the figure is 1 for every 286 inhabitants. In 1983 the number of hospital beds reached 121,600. The annual bed capacity in health care facilities, including sanatoriums, is 193,000. There are currently 121,000 places in day-care centers. Expenditures for medicine reached Kcs 4.63 billion last year.

Infant mortality has decreased to 20 percent of its 1948 level, or 16.1 per thousand. Life expectancy has increased for women to 72 years and for men to 69 years.

Sanatorium treatments founded on the utilization of rich natural treatment resources have become an inseparable part of preventive care. Sanatoriums now operate year round. The bed capacity of sanatorium treatment facilities is 34,500, with more than 456,000 patients annually making use of sanatorium treatments to improve their health. Since 1961 expenditures on health care have increased by a factor of 4.2.

The mission of socialist schools is to link organically the educating and the character training functions, to participate fully in the communist education of youth, to raise their social consciousness, develop their creative activity and to use its resources to share in the formation of the personality of a young socialist person. The improvement of the school system will create the conditions for the schools best and most effectively to prepare the young generation for future jobs and to take an active role in the building of a developed socialist society.

Preschool education is an important part of our educational system which supplements parental upbringing. An extensive network of kindergartens prepares children for their upcoming school education while at the same time allowing mothers of children to again become involved in the world of work. In the 1983 school year 713,000 children were enrolled in kindergartens, which is 9.1 percent of the pertinent age bracket.

There are 373,000 students enrolled in daytime programs at gymnasiums, secondary professional and professional schools. A total of 181,000 students are enrolled at colleges, 145,000 of which study in daytime programs and are Czechoslovak citizens, and more than 4,000 of which are foreign students.

The development of education, the improvement of the school system, the extension of the required time of school attendance to 10 years, the increased training of youth for blue-collar occupations, the setting up of professional training programs with a diploma, are all combining to further improve education. Since 1950 the percentage of the population with a full high-school education has increased from 4.6 percent to 17.5 percent, and the percentage of those with a college education from 0.8 percent to 5.1 percent. Since 1948 the number of employees in the educational system has increased by a factor of 4 to almost 414,000. The number of high school and college teachers has doubled.

The economic and social development of the CSR and SSR has contributed to a further strengthening of the unity and fraternal cooperation between the Czech and the Slovak peoples, and of all nationalities in our country. As Comrade Gustav Husak stated at the 16th Party Congress: "We can say with justified pride that the task of overcoming the historically conditioned differences in the economic, political and cultural life of our peoples has for all practical purposes been fulfilled. Depressed areas have disappeared from the CSSR. This all contributes to the formation of a firm sociopolitical base for our socialist social order and our socialist state."

A clarification of the results which our working people have achieved under the leadership of the CPCZ over the last 40 years of the building of socialism must be fully utilized in the mass development of socialist competition focused on the fulfillment and overfulfillment of state plan targets for this year and to assure the active participation of workers in plan formation for 1985. This must be done so that every individual and work collective will consider it a matter of honor to have a specific socialist commitment for the fulfillment and overfulfillment of plan targets for the final 2 years of, and the entire Seventh 5-Year Plan.

9276

CSO: 2400/52

LER VIEWS INTERNAL ENTERPRISE KHOZRASHCHET

Prague HOSPODARSKE NOVINY in Czech 14 Sep 84 p 1

[Article by Eng Leopold Ler, CSc, minister of finances of the CSSR and chairman of the Governmental Committee for Planned National Economic Management: "Internal Enterprise Khozrashchet"]

[Text] As the 9th and 10th plenums of the CPCZ Central Committee have shown, certain positive results were achieved by the program for intensification and growth of efficiency in management, to which a major contribution was undoubtedly made by the implementation of the Set of Measures. Nevertheless, in view of the demands we must make on the development of the economy, we cannot be satisfied by far with the achieved results. Rather, we must regard them as the beginning of a way to achieve a comprehensive, thorough turn in the utilization of the factors of intensive development--in the development of efficiency of our national economy and of its individual sectors.

Work for that purpose is being conducted on plans for the further development of the Set of Measures, and thus for the intensification of its effect on a positive economic development in the next 5-year plan. The outcome of this work is presented in the form of the Main Directions for the Further Development of the Set of Measures for Further Improvement of the Planned Management System of the National Economy. Important measures are now undergoing tests in certain branches and VHI's [economic production units]; their purpose is to seek new ways in the management of technical development, capital investment and linking production with foreign trade, so as to interconnect those areas of the process of capital replacement.

Central agencies are therefore striving to achieve further substantial improvement of the planned system of national economic management in harmony with the objectives and principles of the Set of Measures, on its basis and by its further development.

At the same time, however, one must realize that thus far the Set of Measures in its current form has not been consistently implemented on various levels of management, and for that reason its effect on the intensive development of economy and on the growth of its efficiency is being weakened.

The key question in this conjunction is the transference of the purpose and principles of the Set of Measures into the management of enterprise subdivisions,

and thus also in the operation of every enterprise unit, into the daily work of our working people, workers, technicians and all employees who are the bearers and executors of internal enterprise management (plant directors, managers of operations, foremen and leaders of work teams as well as employees of personnel departments involved in the management of enterprise subdivisions). After all, there can be no doubt that only by mediation of the management of enterprise subdivisions may the Set of Measures turn into a force that affects the rationality of the management and workers' initiative and stimulates every worker to become a better steward of his place of work.

An especially important place in the management of enterprise subdivisions is held by internal enterprise khozrashchet--in other words, a system of economic management of enterprise subdivisions, based mainly on the application of internal enterprise planning, on the use of such categories as norms, internal enterprise prices, costs and returns of enterprise subdivisions and different wage incentives, and on accurate records concerning the development of value and natural aspects of economic operations of enterprise subdivisions and of all working people.

It may be mentioned that in relation to enterprise subdivisions and to the working people, internal enterprise khozrashchet fulfills the same role as the system of management introduced by the Set of Measures fulfills in relation to the VNIJ's and enterprises. This system shares with internal enterprise khozrashchet the same goal (efficiency) and the same emphasis on economic methods of management and on the application of value mechanisms in the management.

Continuous improvement of internal enterprise khozrashchet is a self-evident duty of the managers of enterprises. As a matter of fact, it is a tool of their managing operations, which must be in addition tailor-made and conform to the specific conditions not only of individual enterprises but directly of individual enterprise subdivisions; it must be organized in a very differentiated fashion, with special consideration of the different character of the forces of production in individual enterprises and enterprise subdivisions, and with consideration of the type of production. On the other hand, the character of internal enterprise khozrashchet in various enterprises and in various enterprise subdivisions is not absolutely different; besides specific traits it contains certain general characteristics.

Upon the initiative of the Governmental Committee for Planned National Economic Management it was therefore possible in 1980 to articulate for khozrashchet principles for the intensification of internal enterprise khozrashchet in order to stimulate further development of internal enterprise khozrashchet and to demonstrate how that development should be focused according to the purpose and principles of the Set of Measures.

As is known, the principles of intensification of internal enterprise khozrashchet are published in the supplement of HOSPODARSKE NOVINY Nos 46 and 47/1980 as methodological directives whose purpose is to facilitate and accelerate the program of internal enterprise khozrashchet in accordance with the Set of Measures.

Thus, 3 years have passed since the publication of the principles of intensified internal enterprise khozrashchet. It may be noted that without any doubt khozrashchet has developed during that time. Programs to enforce and improve internal enterprise khozrashchet in VNI's and enterprises were prepared. Its regulations were intensified above all in 1982. The extent to which internal enterprise khozrashchet and its standards are enforced, however, still differ according to individual VNI's and enterprises and even according to individual types of enterprise subdivisions.

Naturally, the results produced by internal enterprise khozrashchet depend on its quality, which is affected by a number of factors. Above all, it appears that the tasks of the enterprises in the growth of efficiency, as well as the sources of enterprises, must be broken down into enterprise subdivisions according to their function, authority and responsibility, and according to the potential of their realistic effect on the development of efficiency. The enterprises must follow the best experience, for example, of Vlnena in Brno, where the methodology of the so-called pyramidal breakdown of enterprise indicators of efficiency (mainly return on operating assets) was developed and applied according to individual factors, and consequently tasks were selected for enterprise subdivisions or for the workplaces.

By the same token, the focus must not be directed on production sectors alone but also on preproduction units, primarily on technical development (R&D, planning, construction and technological preparations for production).

The old truism has been confirmed, namely that internal enterprise khozrashchet without norms is unthinkable and that their quality determines its effectiveness. We cannot be satisfied with the results achieved in this area, although some positive changes have taken place.

Along with the norms, material incentives determine the efficiency of internal enterprise khozrashchet in a decisive way. We may say that it is linked with indicators of labor efficiency of enterprise subdivisions and of individual employees. However, this method must be applied with absolute consistency in every sector and for every employee. For internal enterprise khozrashchet to achieve overall efficiency, it is extremely important to apply it in all enterprise subdivisions with no exceptions. And precisely in that respect much work remains to be done in our enterprises. Thus far it has been implemented primarily in main production divisions, much less in auxiliary and service sectors, and its application in technical development sectors is only beginning, which is especially consequential because employees in R&D, in planning and in construction and technical preparations for production have a decisive impact above all on the growth of efficiency of economic operations in enterprises, mainly on the development of new products, on upgrading the technical standard and quality of the goods manufactured at present, and on the reduction of production costs.

Every enterprise should eradicate as fast as possible the above-mentioned serious deficiencies in the application of internal enterprise khozrashchet, and above all focus on the introduction of internal enterprise khozrashchet in technical development sectors. By the same token, it is important to proceed in particular in those sectors from the premise that internal enterprise

khodzrashchet must be aimed at both aspects of efficiency, i.e., not only at the economy of the operation but also at the utility (usefulness) of its results, not only at cost-cutting but also at higher utility values of the goods, especially their technical standard and quality. It is unconscionable to use internal enterprise khodzrashchet in technical development sectors as a mere tool to affect only cost-cutting in those sectors.

Work teams of the Governmental Committee for Planned National Economic Management drafted model plans of internal enterprise khodzrashchet for technical development sectors and for selected auxiliary or service sectors, specifically, sectors of power engineering management, maintenance and factory transportation--in other words, for sectors whose operations are particularly essential not only from the enterprise's point of view but from the point of view of our whole national economy. All the above-mentioned model plans have been--or will be--published as supplements to this and the next issue of HOSPODARSKE NOVINY, so that they may serve enterprises as a methodological aid for their own creative solution of the problems under discussion.

We presume that the publication of model plans, above all of the model project of internal enterprise khodzrashchet for technical development sectors, will inspire our enterprises to contribute their own specific experience to the issues with which the model plans deal, and to acquaint our experts and our public with them.

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PARTY OFFICIAL VIEWS AGRICULTURAL PLANNING

Bratislava PRAVDA in Slovak 5 Oct 84 p 1

[Article by Julius Varga, department head in the CPCZ Central Committee: "Assured Rational Nourishment"]

[Text] Ensuring nourishment for our people is at the center of attention and concern of the communist party and the socialist state. This is confirmed by the results of discussions at the 11th Plenum of the CPCZ Central Committee, which took place 2 and 3 October 1984. They evaluated the fulfillment of the tasks laid out by the 16th CPCZ Congress, took measures to ensure the successful completion of the entire Seventh 5-Year Plan, and judged the directions and overall long-term development of agriculture and other branches of the economy supplying people with foodstuffs.

This 11th Plenum of the CPCZ Central Committee is all the more important because it took place in the 35th anniversary year of the historic Ninth CPCZ Congress, which laid out the outlines for the transition of the countryside to socialism, and shortly before the 10th National Congress of Unified Agricultural Cooperatives. It was thus an opportunity to balance the accounts of a 35-year process which is clearly a favorable and happy one. Not only the results in the production of foodstuffs bear witness to this, but also life in the countryside itself, which has changed beyond all recognition. The socialist transformation of agriculture has provided the working farmers with a firm basis of security in their lives and given future generations a clear perspective. There has been success in overcoming the eternal and far-reaching differences between the town and the countryside, and a firm union of the workers and the cooperative farmers has developed everything positive in the life of our countryside. There has been success in the development of agricultural production, in the increase in the standard of living for cooperative farmers and other agricultural workers, in the constant improvement of the social and economic conditions of work and living, in the growth in educational and cultural levels and in other areas of life, which are convincing testimony to the correctness of the CPCZ policies.

Our agriculture had particularly good results in the last 5-year plans. At the 11th Plenum of the CPCZ Central Committee, the results which we achieved in the development of agriculture and the foodstuffs industry in these 4 years of the Seventh 5-Year Plan were rightly praised. Through the concentrated

efforts of the party organs and organizations, management organs and workers in agriculture and with the effective support of the entire society, we have succeeded in continually increasing our self-sufficiency in the production of foodstuffs and agricultural raw materials and in raising the quality of people's nourishment. After an unfavorable year in 1981, in a short time we were able to restore and to speed up further the dynamics of production, especially in the development of cattle raising. Actions taken by the Fourth Plenum of the CPCZ Central Committee, especially in economizing in grain feeds, fuels and energy overall, help to achieve some long-range strategic goals. The application of an improved system of planned agricultural management plays a positive role in increasing the intensity and effectiveness of production and strengthening the economy.

From the standpoint of increasing our self-sufficiency, it is especially important that we speed up the dynamics of crop production, particularly in the decisive sectors, the production of grain and bulk feeds. The record harvest of grain last year and this year's expected harvest will help particularly in reducing our dependence on grain imports. We have also had good results in the production of crops providing oils, especially rape and legumes. After a short period of stagnation, since the middle of 1982 livestock production has again achieved increases in production, especially in cattle raising. A positive factor is the fact that the good production results are being achieved by a growth in intensity by increasing effective use and growth. There was a particular increase in milk production per cow and in overall milk production.

Successful fulfillment of the goals in agriculture and related tasks in the foodstuffs industry make it possible generally to supply the market with good quality on a continuing basis.

Stores of foodstuff products have improved in terms of types and choices, the continuing imbalance between supply and demand has been overcome and nourishment is improving from the standpoint of quality. Our foodstuffs consumption is balanced and comparable to the worldwide level.

The CPCZ Central Committee plenum critically pointed out many specific deficiencies which we must correct in order to carry out our complex tasks. It urgently emphasized the need for more energetic efforts to get rid of the unjustifiable differences in production and economics of enterprises operating under comparable conditions and by thoroughly implementing the intensification programs to raise the laggard enterprises to higher levels. There must be more effective solutions to problems in the production of sugar beets, potatoes and some other technical crops; in the differing rates of efficiency in livestock production and the elevated consumption of feed per unit of output; and in finding more effective handling of all resources and materials while reducing and limiting losses.

The CPCZ Central Committee emphasized that we currently need to concentrate all efforts on successfully fulfilling the tasks in this year's plan and in the overall Seventh 5-Year Plan. Among other things, we must utilize the surplus grain produced to create the required operational fodder reserves. We therefore must stamp out all cases of waste in using up grain for an undesirably high level of exceeding the goals in livestock production.

It will be important to bring this year's harvest in from the fields with minimal losses and to plant winter crops to create good conditions for further increases and a predominance in crop production over livestock. To support such tasks, we have to make better use of the improved system of planned agricultural management, especially in applying khozrazchot and suitable forms of rewards, and more closely combine the interests of the enterprise with those of society as a whole.

In discussions at the 11th CPCZ Central Committee Plenum, the immediate tasks in the development of agriculture and nourishment were closely connected with the future tasks which come up in the Long-range Agricultural Development Program, and the plans for other branches of the economy which support the people's foodstuff supplies in the document on preparing for long-range development of the national economy up to 1995. The prospects for food supplies and the ways to get them arise from the program goals of the CPCZ policies and from a complex evaluation of our entire economy, making judgments about the current status and the expected future development of our national economy, the world food market, and possibilities for the development of the international division of labor, especially economic cooperation within CEMA and in particular with the Soviet Union.

By 1995 we can figure on an increased annual meat consumption of 87 to 90 kg, annual consumption of milk and dairy products of 255 to 265 kg and a growth in the consumption of vegetables, fruit and potatoes. On the other hand, for more balanced nourishment there will be reduced consumption of flour and flour products, sugar and fats.

The main way of achieving this development is a further effective intensification of production, together with utilization and broad application of research and development in all sectors of agricultural and foodstuffs production. There is significant growth in the social responsibilities of the supplying branches of the economy for overall support in the delivery of machinery, equipment and technology, chemical products, and other necessary supplies which must be provided. The organizations providing biological and technical services must perform their roles much more effectively.

Successful fulfillment of the demanding tasks of the agricultural-industrial complex demands a further improvement in the quality of political-organizational and ideological educational work with more intensive and increasingly effective action by party organs and organizations. The work content and methods must correspond to the new needs and conditions, and demands on management personnel are increasing. We must demand from them a party-oriented political approach, initiative, discipline and a high level of responsibility in carrying out their tasks. There must be more thorough application of the rule of party control over the economic leadership, but at the same time we must provide support to the economic workers in enforcing work and technological discipline, economizing, and high standards for their subordinate workers. It is also necessary to increase pressure for the application of research and development programs, as well as progressive work methods and models, and to unify the communist approach and increase their responsibility for carrying out party responsibilities at all planned work.

Currently preparations for the 10th National Congress of JRD's [unified agricultural cooperatives] are coming to a close, and this will be an important event not only in the lives of the cooperative farmers, but for all our society. The preparations for the congress to date, including the pre-congress discussions and discussions at cooperative membership meetings and the okres JRD conferences which are now taking place, confirm the high level of activity and determination of workers in the agricultural-foodstuffs complex to meet the planned tasks successfully. We believe that the 10th National Congress of JRD's will bring together all of the agricultural efforts for further successful fulfillment of the self-sufficiency program in the production of foodstuffs and increasing socialist agriculture for the fulfillment of the tasks stemming from the resolutions of the 16th CPCZ Congress.

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CSO: 2400/48

PERSONNEL OFFICER DISCOUNTS LABOR SHORTAGE ESTIMATES

Bratislava PRAVDA in Slovak 17 Oct 84 p 5

[Article by Jozef Savel, deputy for personnel and the labor force, Mier Factory Committee, Topolcany: "Is There Enough Labor Force?"]

[Text] Advertisements in newspapers giving notice of job openings at the okres national committees, organized recruitment drives as if the plans for the number of workers were not being met in a considerable number of organizations, could lead to the conclusion that there is just not enough labor available. But this fact should be a sign that we must realize that everything is not in order in planning these numbers and that there are other reasons for this "shortage" of workers.

A limit on the number of workers is a prime indicator in the Seventh 5-Year Plan. To date we have not achieved any basic progress in planning wages. We still apply planning relationships between the number of workers, the average earnings and the overall wage funds which an organization has available at a given time. These facts lead to a situation in which the preparation of the plan shows a need for further labor and therefore greater wage funds.

Norms of Labor Consumption

I believe that we can basically solve this problem by planning wage demands based on performance (adjusted personnel output) or a similar indicator which expresses the relationship between production and the necessary wage funds. Even currently the available amount of wage funds, and not the plan for workers, is an important indicator. But then it becomes a matter of accounting for the planned wage funds either from the relationship to the labor force or according to norms of labor consumption, according to wage expenses for production, or according to norms for numbers of workers, etc. There are substantial differences between these approaches.

When planning wage funds, anyone who does not seriously make use of wage accounting according to the norms of labor expenses for production, but instead uses the relationship between the number of workers and average earnings for the first calculations of needs for wage funds, will continue the tendency toward higher labor force requirements, both in formation of the plan and in actuality. With an unstable 5-year plan, this tendency will also be

applicable in figuring out the basis for later periods. This is the cause of the problem of an adequate or "insufficient" labor force and the agreement or disagreement of the plans worked out with their sources at individual locations.

Getting Interests To Coincide

Another reason why it is sometimes felt in some places that there is a shortage of workers is their performance and use of work time. Except for assembly lines and coordinated flow of production, it is probably not possible to give a positive evaluation as a whole to the utilization of work time. In some cases there is a certain psychological barrier, the workers' fears of the work norms being made stricter. These fears are a result of incorrect practices in setting work norms; according to Paragraph 114 of the Labor Code, work norms can be changed only when there is a change in technical or organizational conditions of the work performed or if it is determined that there was an obvious error or that they were otherwise incorrectly established. In other cases it is not possible to change the norms. But if it is determined that the labor consumption norms do not correspond to a great degree with the technical and organizational levels of production achieved, an organ of the superior organization can, with the agreement of the higher trade union organ, take measures to study and adjust the norms.

With technically justified norms, we should see higher productivity spreading while maintaining economy measures and quality of work, and this should be valued from the morale and material standpoints. Sometimes we treat this higher productivity as shock worker tactics. Higher productivity improves the usage of work time, which results in a higher average fulfillment of the performance norms and also solves the problem of the labor force. Getting the interests of society and the enterprise to coincide with the interests of the workers has been shown to be an important condition for better utilization of the reserves which we have in usage of work time. This requires that we use the wage funds of an organization effectively, while preserving the principle that increased productivity with a lower number of workers means higher earnings. Such a harmony of interests is a necessary factor in workers' satisfaction and thus helps to keep labor turnover low.

Hollow Statistics

Another deficiency in managing the labor force involves the actual work performed by students (or apprentices) in the production process. During their pre-employment training (4 months of technical training), the student apprentices perform actual production work for which they receive the same wages a qualified worker would get for the same output and results.

According to the directive on putting together state statistical reports on the status of workers and wages, student apprentices doing pre-employment training do not belong in the official count of the number of workers. But students working in production do not show up in the number of workers. The enterprise (or factory) is "short" of workers. In addition, this obviously causes a mathematical distortion of the level of productivity of labor and of

average earnings. At this time organizations have a considerable number of student apprentices and thus the distortion of the data is even more significant.

So, is there actually a labor shortage or is it an artificially created situation because of planning practices and conditions at the work sites or because of the directives on statistics? One thing is sure: these problems must be decisively resolved and we must improve the mathematical methods used in planning and statistics.

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LONG-TERM VIEW OF CAPITAL STOCK USE FOR GOODS CIRCULATION

Prague PLANOVANE HOSPODARSTVI in Czech No 8, 1984 pp 58-65

[Article by Eng Josef Hubalek, IMADOS Prague: "Long-Term Outlook for Capital Equipment Used in Goods Circulation"]

[Text] The intensification of the Czechoslovak economy involves not only production and consumption processes, but also the circulation of products connected with the shipment of products from the producer to the consumer. This is a service function with material, technical organizational, economic, social and legal aspects. It involves not only transfer operations over long distances (shipping), but also the short-distance movement of products and materials (materials handling), packing and the consolidation of units for shipping, warehouse management, shipping and goods distribution. Circulation also includes the formation of production, sales and commercial inventories, in addition to inventories in intermediate warehouses. We do not include the movement of materials within an enterprise in goods circulation, even if the item was actually shipped over great distances. The definition reflects, after all, the interenterprise structure of supplier-consumer relations, which in turn affects material flow, handling units, shipment modes and other circumstances which determine how severe the demands of circulation will be on public resources. The efficiency of circulation is defined as the relationship between costs of circulation and the value of total sales, or the volume of material flows in natural units. The following factors influence circulatory efficiency:

- the number, age, and technical sophistication of transportation equipment and the other subsystems of circulation;
- the number and qualification structure of the employees entrusted with the running of these operations;
- noncapital asset requirements for materials, energy, fuel, rentals, maintenance, repairs, interest on loans and technical development;
- damage and losses to handled, transported, and warehoused items,
- the length, intensity, and smoothness of material flows;
- the transportation time;

--inventory levels and their average turnover time;

--managerial sophistication.

Overall circulation effectiveness depends on the technical and organizational sophistication of individual subsystems and their synchronization, in terms of materials and time, with production and consumption. A common starting point for optimizing shipping is the nature of material flow, its internal structure, the size of deliveries, territorial distribution and final destination. Individual subsystems fulfill various functions related to material flow. For instance, packing serves primarily a protective function, manipulation and shipping a placement function, warehouse management an equilibrating function and the distribution system a distribution function (sales).

This definition of circulation processes does not correspond to the current organizational structure, which conforms to the overall functioning : a national economy organized in terms of sectors, and is based on the principles of specificity of planned targets and sectoral responsibility for their fulfillment. Goods circulation remains, on the other hand, an economic category with a specific capital stock which must develop in proportion to production and consumption tasks. To the extent that this proportionality is not maintained there will continue to be shortcomings in circulation stemming from the inadequate coordination of this complicated, omnipresent sector, which accounts for a share of the costs of the social product that has been estimated at 40-45 percent.

The Institute for Manipulation, Transportation, Packing and Warehousing Systems has attempted to project the development of the capital stock used in goods circulation, based on the implementation of sectoral projections and limited to subsystems related to packing, warehousing and materials handling.

Systemic Basis for the Projection

The projection for the development of the capital stock used in goods circulation [MZOV] is both qualitative and quantitative. The quantitative aspect relates to material flows occurring in the national economy in conjunction with industrial, agricultural and construction production and distribution. Its qualitative aspect concerns the development of specific warehousing, transporting, handling and packaging systems, which are in turn at the mercy of the technical sophistication of the capital assets being used and of the technical and organizational sophistication of the management of the pertinent labor processes. This developmental projection for MZOV therefore must take account both of the volume and the structure of material flows, the fixed and circulating capital assets involved in particular systems, and their long-range technical development. This in turn assumes appropriate innovational activity in both the production and product base. For these reasons work on the projected development of MZOV has been oriented on the following areas:

--material flows which, by their volume, intensity and territorial location, determine the capacity and functional structure of utilized systems and assets (and in part the formation of inventories);

--the production base of these assets as a necessary precondition of their availability (excluding special equipment utilized in small quantities, the production of which in Czechoslovakia is uneconomical);

--the development of warehousing, transporting, handling and packaging systems and equipment, following worldwide trends in these areas with adjustments made to conditions specific to the CSSR.

Numerical data for the first two areas do not yet exist in an information system which would facilitate an analysis of current trends. The sole exception is data on inventories and on the production of certain warehousing, packaging and handling equipment that are monitored by the Federal Statistical Office. Data on installed equipment and other capital assets, materials consumption, warehouse space and the like are available only through investigation, the most extensive of which has been a statistical projection investigation in 1977 and a number of subsequent similar projects.

Regarding ties to the projections of other scientific divisions and to macro-economic projections of the growth of the Czechoslovak economy, it must be stated that official materials have not been available for many years and that only Government Resolution No 10/1983 has created the requisite conditions for their formulation and ongoing implementation. For these reasons it has been necessary to formulate a projection in several variants. The year 1975 was chosen as the starting point.

Volume and Structure of Material Flows

The projection is based on the assumption that the volume of material flows depends first of all on the volume of production consumption. This will, however, increase at a slower rate both because it is reported in units of quantity and because of the gradual intensification of all consumption processes and the improved valuation of all raw material and material inputs (even though the average price of a ton of material in the material flow will increase). A first approximation within the context of global values of economic growth indicators in 1980-1985 suggests a gradual reduction in the growth rate of material flows as a result of the discovery of new ways to conserve material and energy without substantial changes in the current structure of production. For 1986-1995 the decline should be more rapid because of the implementation of research and development innovations, the wider application of economic incentives and reduced losses of all kinds that accompany the gradual introduction of changes in the structure of production away from energy-intensive production programs that have proved to be ineffective from an international exchange viewpoint.

This reduced growth rate of material flows for the entire CSSR may be projected as follows, after applying these correctives:

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
millions of tons/year	2,735	3,100	3,350	3,650	4,030
growth index	1	1.13	1.22	1.33	1.47

By main economic sector, growth in material flow is projected as follows (1975 = 1):

<u>Sector</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
Federal Ministry of Metallurgy and Heavy Engineering (FMHTS)	1.06	1.13	1.35	1.35
Federal Ministry of General Engineering (FMVS)	1.15	1.35	1.54	1.73
Federal Ministry of Fuel and Power (FMPE)	1.13	1.27	1.43	1.54
Federal Ministry of Agriculture & Food (FMZVz)	1.09	1.18	1.25	1.32
Ministry of Industry of CSR + Ministry of Industry of SSR (MP)	1.16	1.33	1.54	1.75
Ministry of Building of CSR + Ministry of Building of SSR (MSv)	1.15	1.16	1.25	1.52
Ministry of Trade of CSR + Ministry of Trade of SSR (MO)	1.15	1.32	1.48	1.69
Other	1.16	1.23	1.28	1.35
Total	1.13	1.22	1.33	1.47

If we arrange the initial and target values for material flows of individual sectors by magnitude, we can state that 77 percent of their volume lies in sectors which extract or process fuels and construction materials or agricultural crops. Given these percentages, making material flows more efficient (their composition in terms of territory, intensity and smoothness) in the FMPE, MSv and FMZVz will be of particular importance. Although materials handling and warehousing requirements are influenced by other factors (such as resistance to climatic and mechanical influences, the number of handling operations, inventory size, etc.), the size of material flows basically means that priority should also be given to a resolution of these and related problems in the above-mentioned sectors.

Likewise, the volume of material flows is not interchangeable with transportation requirements, which can increase either more rapidly or more slowly, depending on changes in average transportation distances and the turnaround time for transportation equipment. For this reason, transportation requirements for agriculture will increase more rapidly, due to the concentration of agricultural enterprises, than in other sectors, even though the total volume of material flows will decline.

In order to evaluate time shifts in the originally projected target volumes for material flows, diagrams were drawn up for each sector showing year-to-year growth rates. Relatively greater deviations appear for the sectors of the FMZVz and FMPE (slowdowns in the 1980-1985 period), while a certain slowing down is evident in the other sectors in the 1985-1990 period. This data, however, must be considered preliminary and approximate only because actual growth rates will depend on the long-range outlook for macroeconomic development, and this will include significant structural changes especially in the shares of the metallurgical and basic chemicals divisions.

Labor Force

The increase in numbers of workers in the period covered by this projection was corrected to correlate with the growth of the reduced material flow volumes, thereby adjusting the results of older projection statistical investigations. During further adjustments employees who were not directly involved in goods circulation were excluded from the balance. In terms of the development of the capital stock used in goods circulation, however, one is still dealing here with indicators of a supplementary character which are significant mainly for determining capital stock per worker figures and labor productivity. The following overview indicates the structure of the labor force:

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
Total employees involved in circulation	1,158	1,192	1,225	1,269	1,307
of which: Documented	879	917	945	982	1,005
Performing more than one task	279	275	280	287	302

Indexes:

Total workers	1	1.01	1.04	1.06	1.09
Employees involved in circulation	1	1.03	1.06	1.10	1.13

Projections for the development of the labor force structure may be expressed with the following percentages:

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
Workers involved in circulation	100.0	100.0	100.0	100.0	100.0
of which: In warehouse management	38.9	39.3	39.5	39.3	39.0
In packaging	10.5	10.9	11.3	11.8	12.1
In materials handling	50.6	49.8	49.2	48.9	48.9

A long-term trend is evident of a more rapid growth of workers in goods circulation in comparison with workers in the complex as a whole, and especially in operational and intermediate handling. This is because the field of goods circulation is less appropriate for the mechanization and automation of work operations than the production sphere, where the stock of machinery is being integrated to an increasing extent into technological complexes, with a resultant decline in requirements for a labor force. Within the circulation sphere the following trends are evident.

--the number of employees performing more than one task is declining (with the growth of specialization);

--the number of employees in package handling is increasing both absolutely and relatively (due to increased returnability of containers);

--in warehouse management and materials handling the structure of the labor force is stabilizing, even though the actual numbers are increasing in conjunction with production targets.

When broken down by sector, the largest number of workers is in the FMZVz (16 percent of the documented level), followed by the FMVS (8.2 percent), the CSR and SSR ministries of industries (11 percent) and FMHTS (7.7 percent). The communal and cooperative sectors also account for a large share (40.3 percent). By 1990 the share of the FMZVz should decline substantially (to 10.6 percent), that of the CSR and SSR ministries of industry stay about the same, and that of FMHTS should increase to 8.3 percent. The largest increase is slated for the CSR and SSR ministries of trade and results from the current shortage of workers in distribution and the requirement to improve supplies for the population by increasing the quality of commercial services.

Capital Stock and Average Capital Stock per Worker

In 1975, factory transportation accounted for 52 percent (Kcs 78.8 billion) of the total capital stock available to the materials handling, warehousing and packaging complex (Kcs 151 billion). The capital stock per worker figure in factory transportation averaged Kcs 398,000 per employee, which is roughly 8 times the complex average. Therefore, in what follows factory transportation is excluded from all calculations, so as not to skew capital asset per worker figures.

Capital Assets, Exclusive of Factory Transportation (in billions of korunas)

	1975	1980	1985	1990	1995
Total	72.5	76.0	83.5	93.5	103.5
of which: Production	43.5	45.6	50.1	55.2	60.0
Circulation	29.0	30.4	33.4	38.3	43.5
Indexes: total capital stock	1.0	1.0	1.2	1.3	1.4
capital stock for circulation	1.0	1.0	1.2	1.3	1.5

The probable volumes of capital assets for the production sphere and the sphere of product circulation were determined by an analysis of the individual sectors. For instance, in the FMZVz sector agricultural production was evaluated separately (and yielded a ratio of production capital stock to circulation capital stock of 80:20) and the food sector separately (the same ratio was 50:50). The relationship was set at 40:60 for the FMHTS, 60:40 for the FMVS, 65:35 for the CSR and SSR ministries of industry. The CSR and SSR ministries of trade sectors were included within the total scope of product circulation. For production sectors, account was taken of their marketing organizations (the Agricultural Supply and Procurement enterprise for the FMZVz and the FERONA enterprises for the FMHTS).

The service character of the labor processes in the circulation sphere further requires that the necessary capital stock be available with certain capacity reserves, because the amount of time lost from the main flow of the production process is a greater economic burden than the writeoffs taken from temporarily unutilized capital assets used in circulation.

Average capital assets per worker are evident from the following:

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
Capital assets used in circulation	29.0	30.4	33.4	38.3	43.5
Employees involved in circulation (thousands)	1,158.0	1,192.0	1,225.0	1,269.0	1,307.0
Blue-collar workers involved in circulation (thousands)	868.0	894.0	912.0	945.0	967.0
Average capital assets per worker (in thousands of korunas, excluding factory transport)	33.4	34.0	36.6	40.5	45.0
of which: in organizations of the CSR & SSR ministries of trade	8.1	9.7	11.8	14.7	19.5

At present the highest capital assets per worker figures occur in the sectors of the FMHTS, FMPE, FMZVz and both ministries of industry, where bulk materials are handled. The lowest levels are found in the organizations of the Ministry of Trade, where low-level mechanization predominates. By the same token, however, this is an area that is projected to experience some of the highest growth rates. The increases in numbers of blue-collar workers involved in circulation over the long term lags somewhat behind that of mid-level technical personnel. This is a result of increasing demands on management and on the mastery of machinery systems that replace human labor.

Investments for MZOV Replacement and Development

Overall requirements for capital investment related to circulation (exclusive of factory transportation) is projected as follows:

	<u>Seventh 5- Year Plan</u>	<u>Eighth 5- Year Plan</u>	<u>Ninth 5- Year Plan</u>
Capital investment for development (billions of korunas)	3.0	4.9	5.2
Capital investment for replacement (billions of korunas)	9.6	10.0	11.1
Total (billion of korunas)	12.6	14.9	16.5

These figures were arrived at by using calculations from the implementation of development projections for the cross-sectoral complex of materials handling, warehousing and packaging, while investment figures for replacement and development in the sphere of circulation were derived from data for the entire complex, making it necessary to consider them as approximate only. This emphasizes the fact that the average acquisition costs for capital stock for the circulation sphere, especially that acquired through imports, are undergoing constant changes, which in turn change the efficiency of investment, or the possibilities for realizing them at all, given an environment of limited resources.

The projection estimates the total volume of investment related to circulation to be as follows (figures are in billions of korunas):

	<u>7th Five- Year Plan</u>	<u>8th Five- Year Plan</u>	<u>9th Five- Year Plan</u>	<u>10th Five- Year Plan</u>
Investments in equipment	12.6	14.9	16.5	18.2
Investments in construction	51.0	57.0	60.0	63.0
Total investment	63.6	71.9	76.5	81.2

Data for the Seventh 5-Year Plan will be lower than originally predicted because immediately prior to the approval of the Seventh 5-Year Plan by the government (May 1982) a number of targets were reduced. These trends will continue on into the Eighth 5-Year Plan. Over the long term it will be possible to make volumes for construction investment more precise on the basis of a statewide plan for the development of a warehousing network as provided for in Government Resolution No 151/1982.

Inventories

The projection assumes an average annual increase in inventories in the national economy of 2.2 percent, which is roughly in accordance with the projected growth of production consumption. It also takes into account a moderate increase in average kilogram prices, meaning that the physical volumes of inventories should increase at a slower rate than their value in current wholesale prices. The projection estimates the following inventory levels (in billions of korunas):

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
Total inventories	397.0	463.0	511.0	583.0	654.0
of which: Warehouse inventories					
in circulation	248.0	290.0	320.0	365.0	409.0
Average kilogram prices	2.83	2.89	2.95	3.0	3.11
Inventories in circulation (millions of tons)	87.6	100.3	108.5	121.7	131.5
Index	1	1.14	1.24	1.39	1.50
Index of growth in material flows	1	1.13	1.22	1.33	1.47

The indexes of increased inventories in circulation and of material flow are roughly equal. The projection indicates an increase in inventory turnover that will result in a more favorable relationship to national income. However, this change will not be evident with regard to material flow, because its growth rate is based on the same assumptions.

Development of Warehouse Facilities

The total requirements for operational warehouse space were set in the projection as the sum of used and auxiliary spaces, and did not include intermediate warehouses. After reduction, requirements for active warehouse space for product circulation were established as follows (in millions of square meters):

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
Total	148.0	152.0	170.0	193.0	212.0
Index	1.0	1.03	1.15	1.30	1.43

The index of growth in operating warehouse space is somewhat lower than inventories in circulation expressed as material units (1.50), because it assumes the more efficient use of capital stock by increasing inventory turnover and improving warehouse operations. This is the reason for an increase in average warehouse height. The following evolution is projected:

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>
a) Required useable warehouse space (in millions of cubic meters)	256	267	282	325	362
b) Required useable warehouse space (in millions of square meters)	120	116	120	135	148
c) Average warehouse height (in meters)	2.13	2.25	2.35	2.40	2.44
Indexes: for a)	1.00	1.04	1.10	1.27	1.41
b)	1.00	0.97	1.00	1.12	1.23
c)	1.00	1.06	1.10	1.13	1.15

Useable warehouse space as a percentage of total operational warehouse space has been on a long-term decline, because the industrialization of warehousing operations and especially the introduction of mechanization requires relatively more operating warehouse space than space for the actual storage of goods. With higher average warehouse heights the need for useable warehouse space declines in relative terms. This is also confirmed by the indexes of the growth rate through 1995 (1.43 for increased needs for operating warehouse space and 1.23 for increased useable space).

The largest average warehouse heights belong to the CSR and SSR ministries of trade, followed by the FMVS and FMZVz. Organizations belonging to these sectors have a greater percentage of covered warehouses with relatively higher roofs. On the other hand, sectors such as the CSR and SSR ministries of construction or the FMPE have a large number of open storage areas for bulk materials. The pace of development involves an increase in covered warehouses as a percentage of total warehousing capacity, and this is in fact the case in all sectors with the exception of the Federal Ministry of Transportation. The single largest holder of warehousing space are organizations of the FMZVz (in 1975 this sector controlled 43 percent of total operating area and 48 percent of total useable storage area). Second place belongs to organizations of the CSR and SSR ministries of industry (10 percent and 7.8 percent respectively), the third place belonging to organizations of the CSR and SSR ministries of construction (6.9 percent and 6.8 percent respectively). Useable warehouse space as a percentage of total operating space, according to the projection, evolves favorably with regard to the projected level of inventory turnover, with its relatively lower requirements for useable warehouse space. The receiving and shipment of goods should take place in improved operating conditions, which are an important precondition for the mechanization and automation of warehousing operations. The latter, however, require a certain amount of investment.

The data presented in this article far from exhaust the issue of capital assets used in goods circulation. As mentioned earlier, they relate only to a few subsystems of goods circulation, and also focus on only selected indicators. A major subsystem, transportation, was not treated, nor were requirements discussed for packaging and shipping equipment. Nevertheless, the figures that have been presented provide an accurate description of the importance of this sector for the efficient conduct of the preparation process, and thereby also attest to the importance of assuring this process both over the long term and in medium-range plans of economic development.

The target program approach to these issues strongly suggests that they be resolved comprehensively by a top-level comprehensive program broken down according to the individual subsystems of goods circulation, if the spirit of the intensification process that is so important for the future of our economy is ever to penetrate into this far-reaching and obscure area.

9276

CSO: 2400/43

EFFECTIVE PAY SYSTEM IN AGRICULTURE DISCUSSED

Prague HOSPODARSKE NOVINY in Czech No 38, 1984 p 6

[Article by RSDr Karel Ulcak, secretary, North Moravia Kraj Committee, CPCZ]

[Text] The need for introducing into agriculture an effective method of incentives according to the quality and quantity of work done and the need for systematic development of working initiative was emphasized by the Fourth Plenum of the CPCZ Central Committee. The meeting stressed that the system as a whole and its individual measures should be properly understood and utilized as an active tool for the further development of agricultural production.

The North Moravia CPCZ Kraj Committee outlined the basic political and economic goals of the Seventh 5-Year Plan for agriculture and pointed out the ways to achieve them.

Agricultural production in Czechoslovakia is developing dynamically, its intensity increasing. In 1983 and 1984 record yields of grains and beets were achieved, and high yields of other crops as well. The dynamics of animal production are increasing and production costs are falling. The continuing rise in efficiency is reflected in the economics of agricultural enterprises. Conditions are being created for rewarding workers better, for strengthening the merit system of wages.

We believe that the positive results of agriculture owe much to the increased effectiveness of the entire wage system, which is in turn a reflection of improvements in organization and management. We are orienting our agricultural enterprises toward the development of khozraschet and are seeking new forms of payment for work done.

We are directing the attention of the party organizations to seeing that daily work exert pressure on personnel, organizational, and political conditions so that the wage system will not stop at the level of the enterprise, so that they will strive to see that it is extended to individual work places and work collectives. Past experience shows that in a number of collectives the new elements and systems of payment have found application.

The share portion of wages reached 20.5 percent in 1983, and this year we are expecting 23 percent. An example of good management in this matter is the Lubin JZD [unified agricultural cooperative] in Novy Jicin Okres, where 27

percent of wages were in the variable portion, on average throughout the enterprise, of which 22 percent were direct bonuses without shares. For persons caring for cows and other cattle the variable portion exceeded 30 percent and direct bonuses 25 percent. In 1983 this cooperative obtained an average of 4,435 liters of milk from each of 1,000 cows, and all the work was first-class.

Similarly, in other enterprises, such as the JZD's in Frydlant and Ostravici, Trinec, and Hanovice, the incentive portion of wages for the entire enterprise exceeded 30 percent, of which direct bonuses were more than 25 percent. The incentive portion exceeded 30 percent for those caring for milch cows at the Brezova, Kelc, Kokory, Hovezi, and other JZD's.

Today the bonus systems in a number of agricultural enterprises are much more progressive and the bonuses are higher and more attractive; of course, they also imply the fulfillment of more demanding tasks. They have become simpler and more understandable, and their effectiveness is thus substantially increased. A number of nontraditional and complex approaches to solving urgent problems in production and modern economics have appeared.

Good Experience With Khozraschet

We consider the most valuable experiences to be those associated with introducing khozraschet, including brigade forms of management and payment.

This is true, for instance, of the JZD's in Petrvald, Lubina, Pustejov, Odersko in Novy Jicin Okres, and Hovezi and Bystricko in Vsetin Okres. This year 45 collectives are testing this form of organization of labor and payment throughout the kraj, and we are striving to increase their number. This has led to a number of results in these agricultural enterprises:

--There has been a substantial increase in people's participation in the development of production, in solving economic problems, and in forming collectives;

--There has been an increase in the effectiveness of control and thus a rise in the effectiveness of labor;

--There has been a drop in administrative requirements, and the workers are better informed about their tasks, working conditions, and payment for work done;

--The production process is moving along relatively automatically, without frequent operational intervention on the part of management. Individual initiative is rising and moral stimuli are growing;

--There is an increase in the concreteness of mass political work in the basic organizations of the CPCZ, and space is created for party control.

The introduction of new forms of payment has undoubtedly had good to excellent results. Those agricultural enterprises which have mastered them have achieved sharply increased production and efficiency in a short time.

The results of production, the economic situation of this group of cooperatives in general, and their profitability are better than if they had been assigned to the usual group.

Experience in our kraj has also shown that the introduction of new forms of payment requires the creation of the material technical conditions, introducing order into the structure of management and organization of enterprises, working out demanding and, where possible, permanent internal political norms and regulations and, above all, preparing the decisive factor in the production process: the workers. No less important in all of this is the stability of the working collective.

The introduction of intraenterprise khozraschet with the brigade form of organization and payment will bring, in addition to positive results in the behavior of both the collective and the technicians as well as considerable savings in expenses and labor, certain problems which are difficult for the enterprise to solve.

Savings in wages, which result from reducing the number of permanently active workers in the collective, do not make it possible to regulate the rise in average wages. Thus one of the basic elements of motivation of the collective is lost.

The rules changes introduced during the current fiscal year have caused a certain amount of uncertainty in the governing economic processes. We believe that the matter would be helped if the wage rules were made long-term and were basically incorporated in the state plan.

What We Want To Achieve

In the kraj we have adopted a range of measures concerning agricultural wages, the purpose of which is:

--to intensify and improve intraenterprise planning and reduce plan goals to concrete and comprehensible form down to the level of the worker, and to work out a system of intraenterprise regulations;

--to make the wage system more precise, to establish rules for bonuses, and to increase greatly the dependence of payment on the khozraschet results of management; to set aside a minimum of 20 percent of the wage fund for incentives and to make their payment dependent on fulfilling and exceeding previously determined goals;

--to provide much more carefully thought-out incentives for the technical-economic workers in agricultural organizations for the sectors for which they are responsible and for the rapid introduction of scientific and technical developments;

--to devote special attention to the motivation of technicians--the directors of technological lines, the directors of breeding stations, workshops, etc., who are directly responsible for the working collectives and where the decisions on the level of production are made. At least 30 percent of the wages of these

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technicians should be tied to the fulfillment of operational and staged tasks, their fulfillment should be evaluated immediately, and bonuses should be paid monthly or on the completion of the stage of work.

The operational orientation and scope of use of the so-called director's funds should be increased, and the exemplary results, initiative, and extraordinary efforts of workers and operational technicians should be evaluated. Up to 3 percent of the wage fund should be set aside for this purpose.

In selected agricultural enterprises and, non-traditional forms of payment should be examined and then expanded.

All forms of moral evaluation of workers, development of working initiatives and motivation of people should be considered part of wage policy and practice.

The work of party organizations and agencies of the Union of Cooperative Farmers and the Revolutionary Trade Union Movement should be directed toward these points.

The Kraj Committee sees the optimum situation to be a long-term process with a time limit. We are concerned that a number of enterprises and party organizations have not fully appreciated the importance of wage policy.

Considerable leveling still persists, the scope of hourly wages has not been sufficiently reduced, and subjectivity and alibis are often seen in the use of incentive payments.

Responsibility of Party Organizations

Many technical-economic workers have not found the courage to use wage bonuses more subtly. It remains a fact that the rapid introduction of new forms is impeded by certain antagonistic regulations and shortcomings in setting norms. Not the least significant is the low level of demands placed on the work of officials and the use of controls in this area.

For this reason the party organizations and particularly the economic management of the agricultural enterprises expect considerable efforts in the introduction of order into the wage system, and in the vigorous application of differentials in evaluating the quantity and quality of work.

At present the agriculturalists of the country are preparing for the second stage of the program to improve the economic effectiveness of the wage system. Each agricultural enterprise is carefully and critically evaluating the fulfillment of the planned goals for the first stage. The plan of political and organizational measures worked out for preparing for the transition to the second stage makes specific the tasks which must be accomplished and without which the wage measures of the second stage cannot be realized.

This is a very demanding and politically sensitive matter, and it concerns more than 80,000 people--laborers and technical-economic workers--throughout the kraj. We have made our party organizations equally responsible for the preparations for the second stage of the program.

It is their obligation to provide for unified action by the political and economic leadership, in accordance with the principles approved by the leadership of the CPCZ Central Committee, to develop a broad mass political program to promote a proper understanding of all measures, to create a demanding and satisfactory political climate at all places of work, and to control systematically the fulfillment of goals in this area.

2641

CSO: 2400/52a

INTENSIFICATION OF FORAGE CROP PRODUCTION VIEWED

Prague HOSPODARSKE NOVINY in Czech No 38, 1984, p 6

[Article by Adolf Chrt, secretary, South Bohemia Kraj Committee, CPCZ]

[Text] The resolutions of the 16th Congress of the CPCZ, which were made more concrete by the 4th Plenum of the CPCZ Central Committee, charged agriculture with achieving priority growth in plant production and providing for further development of animal production on the basis of local fodder production. Therefore, the foundation for success in milk output is the production of sufficient quantities of high-quality bulk fodders through highly efficient production.

Although under the conditions of the South Bohemia Kraj perennial fodders and corn predominate in the output of bulk fodder, the production of fodder on meadows and pastures is not unimportant, since they make up 25.8 percent of the agricultural area of the kraj.

Meadows and Pastures: Our Greatest Reserve

Despite the gradual increase in yields of permanent grass areas, from 4.12 tons of hay per hectare in 1975 to 5.22 tons in 1983, production on meadows and pastures in our kraj remains the greatest reserve for bulk fodder and one of the decisive ways to reduce the consumption of solid fodder in the production of milk.

For this reason we have been devoting special attention to this task in recent years. The leading agricultural enterprises of our kraj, such as the Sumavska Hostice JZD [unified agricultural cooperative] in Prachatice Okres and the Oparany JZD in Tabor Okres, which have achieved yields of 8 tons of dry fodder per hectare, and the Chelcice JZD in Strakonice Okres and the Netrebice JZD in Cesky Krumlov Okres with 7 tons, are proof of the large reserves existing in the majority of agricultural enterprises throughout the kraj.

The main causes of the unsatisfactory state of meadows and pastures lies in the long-term failure to care for them and use them properly. The general solution of this problem therefore requires accelerated application of a number of vigorous measures.

First priority goes to agricultural fodder. We know that plant growth is a function of the soil. Research done by the Agricultural College has shown that under the ecological conditions of southern Bohemia the rational use of nitrogen, phosphorus, and potassium has an important effect on the quantity and quality of production, and that the low-value growth on poorer soils reacts with a greater increase of fodder per kilogram of nutrient applied than do higher-quality plants on more-fertile soils. For this reason we are being careful about using differentiated amounts of fertilizers on permanent grass areas.

Another problem which hinders the intensified use of meadows and pastures is the unfavorable ecological conditions; in some years this makes large-scale harvesting difficult or impossible. For this reason we are attempting to reclaim and recultivate permanent grass areas. During the current 5-year plan we have already recultivated 12,564 hectares in permanent grass, representing 88.8 percent of the goal. In the Seventh 5-Year Plan an additional 4,350 hectares of meadows and pastures will be reclaimed.

More Special Pastures

Rapid renewal of permanent grass areas and the building of more special pastures are among the important measures. In our kraj we have already built 90 such installations with a total of 4,421 hectares for 13,600 heifers. The number of these will continue to grow, as the kraj party conference has charged us.

Rapid renewal together with the rational use of fertilizers and mechanical treatment of pastures before and during the growing season will yield positive results. This year we are pasturing 32,000 milch cows, which is 20.2 percent of the entire herd. At the Sumava State Farms, a specialized enterprise where 37 special pastures are already being used by 5,700 heifers, in recent years they have received 70 to 100 grams greater daily growth on the special pastures than on ordinary ones. The important thing for us, though, is to apply this method to utilize areas which are not accessible to mechanized harvesting equipment, since utilizing them as pasture is the most ready mobilization of reserves.

The gradual equipping of the agricultural enterprises with productive machinery for harvesting fodder and equipment for drying hay will make a notable contribution to the more intensive utilization of permanent grass areas. The achievement of this goal is aided by local production of tedders and rakes, of which 465 have been produced in the kraj in the last 2 years.

The hay-baler program is going well in the kraj; it will be fulfilled by the end of the Seventh 5-Year Plan and represents 77 installations with a total capacity of more than 500,000 cubic meters.

With these and other measures we in the kraj are attempting to increase the production of milk from meadows and pastures. The achievement of this goal is being aided by the party agencies and organizations in all agricultural enterprises in the kraj, which have put production of bulk fodders under permanent party control.

This approach will yield positive results. This year in the kraj we have produced 5.17 tons of bulk fodder, measured as dry hay, per head of cattle; of this

3.25 tons are good-quality fodder for winter use. In 1983 this contributed to an annual production of 3,310 liters per head, with a rise of 405 liters from one year to the next and consumption of 0.22 kg of solid fodder per liter of milk.

This year we want to repeat the good results in production of bulk fodder, particularly by better utilization of meadows and pastures, and thus make up for the drop in the corn harvest which is expected this year. We have taken on more demanding goals this year in providing dry fodder for winter use. We want to increase the proportion of preserved fodders used.

On the one hand, we are achieving improved results throughout the kraj in the production of fodders; on the other hand, we must consider the rational use of these fodders in feeding animals and reaching the maximum productive efficiency.

In the past 7 months in this kraj we have produced 7.02 liters of milk per cow from bulk fodder, i.e., 1.59 liters more than we were getting at the beginning of the Seventh 5-Year Plan.

Results in the production of bulk fodders are reflected in greater output of milk and meat. We produced 120 liters more milk than in the same period of 1983. This is absolutely necessary if we are to increase market production of beef and milk for 1984 and fulfill all the goals in this area of production for the entire Seventh 5-Year Plan.

2641

CS0: 2400/52a

FINANCIAL SUPPORT FOR RESEARCH AND DEVELOPMENT

Prague RUDE PRAVO in Czech 12 Oct 84 p 2

[Text] This year, the overall amount of funds earmarked for the development of science and technology in Czechoslovakia will exceed Kcs 18 billion. At the same time, the enterprises will spend from their own resources an amount exceeding Kcs 10 billion on research and its application. Czechoslovakia, which spends approximately 4 percent of its national income on financing scientific and technical development, belongs in this respect among the most advanced countries in the world.

However, large amounts allotted for the development of science and technology have not always been used in the best way. Consequently, the Ministry of Finance, in cooperation with the State Commission for Scientific-Technical and Investment Development and on the basis of suggestions from research centers and production organizations, has prepared a new directive concerning the financing of scientific-technical development, effective 1 January 1985. This directive also contains the conclusions reached at the Ninth Plenum of the CPCZ Central Committee and the detailed elaboration of the main trends of the development of the Set of Measures. The new decree primarily simplifies the management of this field and its control. For example, the number of binding provisions is reduced from the existing 31 to 16.

From the information given by the representatives of the Czechoslovak Ministry of Finance and the State Commission for Scientific-Technical and Investment Development at a press conference on Thursday, it is clear that several basic principles have been adopted: the tasks of scientific-technical development will be financed primarily by those responsible for this development; funds created at the level of the economic production units will become the basic financial sources; balances from these funds will be fully transferable from one year to the next. There also is a possibility of special allocations to the fund from available profit. This way, it will be possible to also pay for certain ancillary expenses not directly related to scientific-technical development.

New regulations affecting the forms of consolidated funds allotted for the scientific-research base and production are being introduced. They will help to establish scientific-production organizations and provide for closer cooperation between science and production.

The purpose of all these principles is to introduce more flexibility and ease in financing scientific-technical development. However, this increased role of the enterprise sphere will not affect the influence of the state budget.

ILLEGAL FUEL SALES UNCOVERED

Prague RUDE PRAVO in Czech 12 Oct 84 p 3

[Article by Karel Walter]

[Excerpt] In 1980-1981, members of the security forces uncovered criminal activity at 35 gas stations in the Czech Republic. The courts punished 250 perpetrators who caused losses exceeding Kcs 4.5 million and more than 1 million Kcs in hard currency. In 1982, 239 employees of 32 gas stations met the same fate.

An inglorious end was awaiting, for example, 14 employees of the Benzina enterprise who worked at gas stations in Havlickuv Brod and Chotebor. One of those sentenced said that his machinations at the gas station yielded him Kcs 50,000 annually in addition to his salary. The scope of his 7-year "enterprise" was also documented by the value of goods he purchased in the Tuzex stores. Another man sentenced also lived the high life. According to the testimony of the TIR foreign drivers, he sold diesel fuel at a price three times higher than the purchase price of vouchers he bought from drivers of socialist organizations. No wonder he freely spent foreign currency and Tuzex vouchers and was also recognized as a spender in a wine cellar. Also enterprising was a "businessman" whose house search revealed DM 2,665, US\$245, 3,755 Swedish crowns, etc. Similar cases occurred in the Jindrichuv Hradec, Tabor, Frydek-Mistek okreses and other places.

Marks, dollars, francs, shillings, lira... Even our korunas were good enough. Pilfering of socialist property, sharing in activities causing damage to socialist property, endangering our hard currency policy--the basis of this criminal activity which includes a high degree of social danger is on the whole clear. At certain gas stations the employees sold the fuel to truck drivers from capitalist countries for hard currency, which they pocketed. The receipts were replaced by vouchers purchased from drivers of socialist organizations, who took them from their employers. The sales for hard currency were also covered up by the surplus of diesel fuel resulting from cheating customers and other machinations.

We all know that it is hard to resist temptation. In other words, if there still are in our country many people who are attracted by unearned profits more than by honestly earned money, it is necessary, besides systematic

education, to create the conditions needed to prevent the possibility of cheating. In many instances, however, this is very complicated.

In Czechoslovakia, as well as in certain other socialist countries, the price of diesel fuel is substantially lower than that of gasoline. Thus, it is logical that the price of diesel fuel paid by foreigners is fixed on the basis of the foreign exchange rate. The drivers from capitalist countries pay with Tuzex vouchers and the drivers from socialist countries with TIR vouchers. In spite of the fact that diesel fuel can be sold only against these vouchers, different prices for the same product make fraud possible.

In the effort to limit criminal activity of this sort, the Benzina enterprise issued in recent years a number of directives and instructions concerning the sale of fuel at gas stations. Labor contracts have been broadened by the inclusion of certain important provisions dealing with labor discipline at gas stations. There are regular courses for gas station attendants, which are addressed by security force members who offer advice based on concrete experience and who make practical suggestions. Since 1975, for example, gas station attendants have been obliged to keep records of diesel fuel sales to foreign customers. The attendants, however, circumvented these directives by failing to record such sales at all or by recording only the minimum amounts. Paradoxical situations appeared. The sales of diesel fuel against Tuzex and TIR vouchers leveled off, in spite of the fact that the number of foreign trucks on our roads has been increasing over the years. To illustrate: some 70,000 trucks, many of them foreign trucks, passed through the Cinovec border crossing last year. Each tank holds hundreds of liters of diesel fuel.

The efforts of the enterprise did not correspond to the achieved results, and it was necessary to look for additional measures. In cooperation with a number of other organizations, the Benzina enterprise prepared and introduced as of 1 April 1983 a new system, entitled TRANSIT-TANK DIESEL. Basically, foreign drivers of diesel vehicles can purchase fuel on Czechoslovak territory at 80 gas stations equipped with a special diesel fuel outlet, which also contributes to road safety and fast sales at the pumps. (Our drivers certainly also see the black, white, blue and yellow TT signs.) The sales of diesel fuel to foreigners at other gas stations or from other pumps is considered by the responsible workers of the Benzina enterprise to be a gross violation of labor discipline.

Initial experience has already shown that this measure (which falls, we can say without exaggeration, into the area of general prevention) has to a certain extent fulfilled its expectations. During the first year of the TT system (between 1 April 1983 and 1 April 1984), the sales of diesel fuel to foreign drivers against vouchers increased by 36 percent compared to the previous year. Thus, we have succeeded in limiting criminal activity in this sector. Why only limiting? This system is not foolproof. The basic problem is that while drivers of foreign trucks cannot purchase diesel fuel for anything but vouchers, they are not obliged to purchase these vouchers. A more effective way is in all probability the system of so-called service booklets used in the USSR or credit cards used in the German Federal Republic, the Hungarian People's Republic, and the German Democratic Republic, etc.

LOW WORK MORALE SEEN AS COSTLY

Prague TRIBUNA in Czech 10 Oct 84 p 5

[Article by Frantisek Smolar]

[Excerpt] Our discussion went on late into the night. We talked about work morale, the fact that laxity, poor control, indolence and narrow "cliquish" interests cost us a great deal of money. We do have, they stressed, no small amount of reserves, but a "woman at the conveyor belt" does not have much time to daydream. She has a specific task and precisely calculated time, and she knows that if she accomplishes her task in such and such a way she will receive such and such an amount of money. Should she perhaps wish to spend an hour or so sitting in a tavern (and why not, if some of the guys can? Don't we have equality?), she would not have time to fulfill her quota. Not only would she feel the consequences in her own wages, but so would the whole collective in the size of their bonuses.

But--they said--why does this have to happen here and not elsewhere? And again they came back to narrow "cliquish" interests, laxity, indolence and poor control.

A few weeks later I stopped in the southern Moravian village of Stran. For a time I had the opportunity to observe the reconstruction of a stretch of the main highway intersecting the White Carpathian range. Often during that time I recalled that discussion. It seemed as if the work morale of the men on that highway were the basis of those complaints. Slow construction, often no one on a full 1-kilometer section. No signs warning of badly joined rebuilt sections, thanks to which many a vehicle comes close to having an accident. Such was the situation here. On Friday, the last working day in August, there was no one on the construction site all day and expensive machinery stood parked on side roads.

But was this an exception?

Regrettably, in a number of professions, especially where allocating work is a complicated task, and not only in construction, we find the same situation. That makes the work of foremen, supervisors at all levels of management, communists and trade unionists all the more important. However, at stake are not only new structures, newly developing material assets.

Good work by supervisors of some of the building organizations was put in doubt, for example, after the recent inspection of the former Prague Tesnov railway station. When some years ago the Czechoslovak State Railroads gave up the premises to make them available to the construction people, the building was in perfect condition. Within a short time some of them, out of rowdiness and pure cussedness, broke all the window panes worth thousands, "borrowed" many valuable parts of the decorations, naturally never to return them, vandalized and broke up the electric transformer and even took away a radiator here and there. The supervisors of their organization were not at all disturbed by such vandalism.

In the middle of July, on Katovice Street in Prague 8, there was a water main break. Repairman from the Prague Waterworks arrived soon enough. They repaired the water main promptly, but without so much as blushing needlessly damaged roses and other shrubbery which were being cared for by the local citizen committee. After departing they left a shambles, mounds of uncleared dirt, a damaged pedestrian walkway. For 2 months nobody checked up on their work or ordered them to put things back as they found them, so finally several young boys, residents of the street, rolled up their sleeves and one Saturday started a clean-up.

Laxity, indolence, poor control and narrow "cliquish" interests often cost us many of our resources and slow down our further development. In its recent proceedings our highest party organ pointed out these facts, that in many instances people still do not realize that without a new attitude toward fulfilling their tasks we cannot move forward, that money paid for work not done is in effect stolen from the resources of the whole society, that destroyed material assets will have to be repaired and again this will be at the expense of those "women" at the conveyor belt, the miners, smelters and all the other hundreds of thousands of good workers.

Not only moral values, but in no small measure also political ones are at stake. In that southern Moravian village I heard the words: "They can get away with anything, and nobody has the strength to make them..." Nobody has the strength to make those road workers in Stran, those Prague construction workers or those water main repairmen behave differently? Really? It should be sufficient to read party documents and fulfill exactly what they mandate. Everywhere, in all enterprises and their supervisory agencies, in all workplaces, and then no one will ever again voice such words of resignation....

12605

CSO: 2400/36

VANDALISM SEEN AS UNPREVENTABLE

Prague TRIBUNA in Czeck 10 Oct 84 p 7

[Text] Many times we come upon various things that someone (someone unknown) has destroyed. Here a telephone receiver torn from its moorings, there a slashed bus seat. After all, both the Czechoslovak State Railways and the Czechoslovak Automobile Transportation and enterprises in charge of urban transport often report that in some cases vandals cause them greater losses than do traffic accidents. Simply put--though we would not wish to make it an issue that could become so extreme as to require some extraordinary measures--vandalism is here. And all of us should be searching for some means of counteracting it. To be sure, there are the national committees and Public Security--but without the help of us, the citizens, obviously not much can be done. For your inspiration we are introducing here today a letter to the editor which we recently received....

How to stop a vandal? The matter is more complex than it might appear. All the indignant comments addressed to it end up with a single, common conclusion: the blame lies in indifference. We read discourses about vandalism beginning with a simple tossing away of a cigarette butt or a ticket stub, that it is necessary to educate, influence, protect, point out--simply not to be indifferent. Is this surprisingly universal and constantly recurring conclusion correct? Are the vandals' acts really the consequence of that "vague" indifference? Is it a fact that blame belongs to all of us who, according to these admonitions, do not give on the whole enough attention to education and prevention? I think that if I were to write now at length about the educational influence of the family, the schools, the Union of Socialist Youth and others on the character of young people, I would only be wasting time. To begin with, vandalism is not exhibited by young people only, and, moreover, I think that vandals hardly ever grow up in well-"conducted" families, schools and organizations. In my opinion, we are really talking about the type of people who, in most cases, simply do not allow themselves be influenced. I do not wish this statement to sound dogmatic and so I truthfully add that I acknowledge the potential and priority of educational influence. But I find that by itself the influence of education tends to be slow-working and not always fully effective.

How to stop a vandal, then? What to do, so that I need not blush when reading or listening to various contemplations on the subject, so that I can say:

"No! I am not indifferent! I did this and that, I prevented such and such!" I have been following these problems closely, but I have not yet discovered how anyone who urges me not to be indifferent has succeeded in preventing a single specific act of vandalism. What would I do if I were to see a group of inebriated fellow citizens demolishing a telephone booth in the span of a few minutes? What can we really do to stop a vandal and protect our honor as citizens? I cover my eyes and ears in order not to see and hear the storm of protests, and I reply: Nothing. At least nothing substantial.

We see in familiar places gangs of drunken or doped-up youths who address each other as "stupid" and act accordingly. We visit cinemas, both indoor and outdoor, and have our own experiences with the behavior of a considerable part of the audience. We are simply often witnesses, spectators, observers, and almost always have a feeling of impotence. What we are talking about, therefore, is attitude. Not mine, not my neighbor's, or someone unknown's. We are talking about the attitude of all of us together.

Let us go back to the original question. How can I then, not being an indifferent citizen, stop a vandal? By grabbing his hand? By shouting? By physically attacking him? By going to the nearest telephone booth (one that was not demolished) and reporting the matter to Security? Or by calling for the help of brave fellow citizens who are willing to risk a fight or an injury, as well as loss of time during ensuing court proceedings? I am afraid that during these tense moments the only thing left to me is to hold my breath and hide my own person as well as I can.

I like nature, I respect the fruits of common labor, I hate vandals. But, I cannot help it, I also like myself. I am sure you know what my thinking is now. I like myself because of the simple instinct for self-preservation which is innate in all of us. To put it briefly, I would not like to lose an eye, a tooth or have some part of my body damaged and spend days in bed contemplating shades of values.

What is to be done then? Nothing else but to answer the basic question: how to stop a vandal? And that--as is evident--is not and will not be a simple matter.

12605
CS0: 2400/36

BRIEFS

TRADE WITH CUBA--The turnover of the goods exchange between the CSSR and Cuba--compared with 1983--is to increase 18.3 percent this year and thus, for the first time in the history of mutual relations, exceed the value of a quarter of a billion rubles. [Text] [Prague PRACE in Czech 27 Oct 84 p 5 AU]

ELECTRIC ENERGY PRODUCTION--Czechoslovak hydroelectric power plants generate, on the average, 4,200 GWH of electricity annually. This is approximately 13 percent of the output of the country's power generating sector. [Summary] [Prague PRACE in Czech 27 Oct 84 p 5 AU]

COOPERATION DOCUMENT WITH ITALY--With the signing of a final document, in which both sides affirm the importance of continuing to deepen mutual relations, particularly expanding economic cooperation, a session of the Czechoslovak-Italian Commission for Economic Cooperation in Industry concluded in Rome on 30 October. [Text] [Prague RUDE PRAVO in Czech 31 Oct 84 p 7 AU]

YEMENI PEACE DELEGATION--Miloslav Vacik, deputy chairman of the Central Committee of the Czech National Front and chairman of the Czechoslovak Committee of Solidarity with the African and Asian nations, received on 30 October a delegation of the Yemeni Peace and Solidarity Council from the PDRY, lead by its deputy chairman, Rage Saleh Nagi [spelling as published]. "The two sides informed each other about the social and economic development of their countries and exchanged views on topical problems of international policy." [Summary] [Bratislava PRAVDA in Slovak 31 Oct 84 p 2 AU]

CHEMICAL TALKS WITH USSR--The 20th session of the Standing Working Group for Cooperation in the Sphere of Chemical Industry, attached to the Czechoslovak-Soviet Commission for Economic and Scientific-Cooperation began in Karlovy Vary on 30 October. The 13-member Soviet Government delegation to the talks is headed by Konstantin Cherednichenko, USSR deputy ministry of Chemical industry; the CSSR delegation by Vlastimil Pechac, head of the chemical industry's sector attached to the office of the CSSR Government Presidium. For 3 days, the two delegations will be "assessing the results of scientific-technical and economic cooperation in the realization of jointly worked out technological processes up to 1980, and will prepare drafts of agreements between the CSSR and USSR Governments on cooperation and specialization in the production of chemical components and synthetic rubber." [Summary] [Bratislava PRAVDA in Slovak 31 Oct 84 p 2 AU]

ORE IMPORTS FROM USSR--To satisfy the needs of the country's metallurgical industry, the CSSR foreign trade organization Kerametal will import from the USSR next year iron, chromium, and manganese ores worth R300 million. A contract to this end was signed on 30 October by Stefan Zlak and Yevgeniy Manakhov, general directors of Kerametal and the Soviet foreign trade enterprise Soyuzpromeksport. [Summary] [Bratislava PRAVDA in Slovak 31 Oct 84 p 2 AU]

USSR PROTOCOL ON PRAGUE METRO--A protocol of the 14th session of the CSSR-USSR plenipotentiaries to monitor the fulfillment of the interstate agreement on expanding Soviet aid in the construction of the Prague metro was signed in Prague today. The long-term agreement, signed in 1970, is being fulfilled as planned in all points. Of significance is, above all, the contribution of the Soviet experts in all the sections of building the Prague metro where the Czechoslovak and the Soviet working people are joining international brigades of socialist labor. The best example of the efficient Soviet help is the completion of yet another section of the Prague metro--from the Sokolovska station to the Fucikova station--which will be opened for use the day after tomorrow. [Text] [Prague Domestic Service in Czech 1300 GMT 1 Nov 84 LD]

CHANGE IN FOREIGN TRADE--In the presence of Rudolf Rohlicek, Czechoslovak, deputy prime minister, and Zbynek Sojak, department head of the CPCZ Central Committee, a meeting of directors of foreign trade organizations was held in Prague on Tuesday. The agenda included a discussion on the implementation of this year's export plan, the problems connected with the 1985 foreign trade plan, and certain suggestions concerning the development of external economic relations during the years of the Eighth 5-Year Plan. Foreign Trade Minister Bohumil Urban emphasized that improvement in the effectiveness of imported goods will be the main task of Czechoslovak foreign trade. To solve this problem will require in the first place closer coordination between foreign trade and production. At the same time, he noted that the Ministry of Foreign Trade must adopt concrete steps which will be based on the adaptation of the resolutions of the 11th Plenum of the CPCZ Central Committee to the conditions of work in foreign trade. Czechoslovak Deputy Prime Minister Rudolf Rohlicek expressed his appreciation for the efforts of foreign trade workers in the restoration of the dynamics of development of the Czechoslovak national economy in the last 2 years. [Text] [Prague RUDE PRAVO in Czech 10 Oct 84 p 2] 1277

CSO: 2400/39

GERMAN DEMOCRATIC REPUBLIC

ECONOMIC EFFECTS OF ON-SITE REFINING OF MINERAL RESOURCES

Leipzig URANIA in German Aug 84 pp 12-16

[Article by Prof Dr Horst Bachmann: "Indigenous Raw Materials and Economic Strategy"]

[Text] Raw materials--the immediate association with this concept is petroleum and coal, ores and salts, and their importance for the energy and material industries of our country. For many decades only pure or slightly contaminated materials were employed as utilizable raw materials. This situation has changed fundamentally. Today, the primary concern is to make comprehensive use of the raw materials that are available in the country and to use them as thriftily as possible. The result is important tasks for geological research and exploration, mining technology and also for the processing industry in our country.

The necessary growth of our national economy--stablely and dynamically--will not be achievable without a secure supply of raw materials and fuels. The raw materials must be used in the most efficient manner possible. As far as volume is concerned, the GDR can meet about 90 percent of its needs for raw materials from its own production. However, because our primary raw material base is by nature rather one-sided, we have to meet about 60 percent of our need for primary mineral raw materials and fuels from imports, as far as their monetary value is concerned. In the economic strategy of our country, therefore, comprehensive opening up of indigenous resources of raw materials and their intensive use occupy an extremely important place. Scientific-technical efforts in all areas of the national economy are being directed at three tasks:

--To use indigenous deposits of mineral raw materials thoroughly, in a way that reduces losses and comprehensively;

--to recycle scrap and waste materials from production and consumption;

--to reduce the energy- and raw material-intensity of production, by lowering the specific consumption of raw materials and fuel and using energy rationally and by highly refining the raw materials and reducing losses in conversion, processing, transportation and application.

If the first mentioned task is solved, then our primary domestic yield of raw materials will be increased.

Geological Exploration and Investigation of the GDR

The prerequisites for the mining of deposits are set as a result of the geological exploration and investigation of the national territory of the GDR. These tasks will be solved by the workers in the operations and institutes of the Ministry for Geology. Substantial funds are available for this purpose. This work will ensure the mineral supply base of the GDR over the long term. In the last few years it has been possible to bring about an increase in the supply of important raw materials, which replaced and, to some extent, exceeded the amount mined.

Ensuring supplies for the accelerated expansion of the energy base of the national economy takes absolute precedent in geological exploration. High demands are being made on geological exploration with the extraordinarily high increase in the mining of lignite in the period of this 5-year plan to more than 300 million tons annually--that is the largest increase in production that has been achieved in a 5-year period in the GDR. Work in lignite exploration will have to be intensified. Scientific methods of evaluation must be employed in increased measure. The major portion of the geological drillings of 250,000 meters drilled annually are for the investigation of lignite deposits. The supply base for our lignite mining is being ensured far into the next century with this work. Comprehensive approaches and modern exploration techniques are typical signs. As a result, lignite deposits in the areas of Potsdam, Neubrandenburg and Schwerin, which lie outside the traditional mining areas, have been investigated.*

To an increasing degree, deeper lignite seams, smaller lignite fields and those with a high ash percentage are being investigated. In order to be able to exploit these deposits rationally in the future, extensive scientific-technological work on the further development of strip-mining technology and strip-mining equipment will be needed. This work is also being directed at the practical use of our supplies of saline coal (coal with more than 0.5 percent of oxides of alkali, taken as Na_2O). Brown coal exploration linked from the very start with a new evaluation of the coal fields and with an early and close coordination with the coal industry, agriculture, water resources management and the territorial organs.

Natural gas production began to expand in the GDR in the mid-1970's. The rapid rise in natural gas production has brought great advantages for the energy industry of the GDR. Based on new geoscientific findings about the genesis, migration and formation of deposits by hydrocarbons, and with the proven support of experienced Soviet geologists, this research work is being continued at an advanced level. Subterranean geological investigation in the north of our nation is of special significance. Several drillings for geological research, with a depth of more than 6,000 meters, are providing important information. Sinking shafts of such a depth places incredibly high demands on the capabilities and the preparedness of the drilling brigades, on the equipment and materials used. Extreme conditions of pressure and temperature,

which prevail at such depths, have to be overcome. The use of newly developed geophysical methods and equipment and those that have undergone further development to intensify research and investigative work has achieved great international importance. Geophysical methods are also being used increasingly in the GDR, in geological research, in the search for and investigation of deposits, but also during the mining of deposits. In connection with the rational evaluation of the measurements obtained, with the aid of automated information processing, new geological knowledge can be gained, the cost of the studies can be reduced and the geological as well as the economic efficiency of such work can be improved.

In addition to lignites, the GDR also possesses extensive supplies in deposits of many mineral raw materials which form the material production base for the construction industry and for the glass and ceramics industry. There are considerable supplies of halite and potash salts, fluorite and barite, tin ore and other ores to some extent. Additional supplies are to be investigated in the deposits of the raw materials just mentioned through geological work. With this exploration strategy, the plan is to ensure the base of supply in the deposits now being mined, and to expand it as much as possible, in the spirit of intensification. As a result, existing mining operations can increase their production most effectively. Their service life can be extended. This is also the aim of the comprehensive exploration of all available and usable raw materials in a deposit. This method is the economically most efficient variation, because an available, usually highly developed infrastructure in the territory in question can be utilized.

Intensive Utilization of Deposits through Mining

The extraction of mineral raw materials through mining is carried out basically using three technologies: strip mining, underground mining and borehole mining. Borehole mining is the domain of the extraction of petroleum and natural gas, but it is also customary in extracting other fluid or gaseous usable mineral resources (for example, carbonic acid, thermal and mineral waters). The on-site extraction of mineable raw materials is interesting, but currently limited to quite special deposit conditions and raw materials. It is a particular form of borehole mining. In this process, the usable solid supply of raw material is converted on-site (in situ) by means of suitable physical or chemical treatment (gasification, using a brine solution or leaching) into a fluid or gaseous state and brought to the surface in boreholes. This method is being used today internationally in the brine-solution extraction of salts, in the leaching of copper and uranium ores and in the extraction of pure sulfur (People's Republic of Poland) with economic success. If the suitable geological conditions exist, and the complicated control of the extraction process is mastered by means of remote-control equipment, a broader application of this technology cannot be excluded in the future. But on-site extraction will never become a serious competitor to the traditional mining methods of extraction.

The extraction of raw materials through strip mining has increased sharply in recent decades in all countries. As far as the amount of raw materials acquired by mining is concerned, it has become the predominant technology in

the world today. About 90 percent of mineral raw materials are acquired in the GDR by strip mining. Compared with underground mining, this technology has decisive advantages in productivity and costs. Using high-output heavy machinery and highly mechanized conveyor installations, production capacities of up to 100,000 tons daily are possible, with high work productivity. The specific mining costs of strip mining are often only 20-25 percent of the costs for extraction and conveying of underground mining.

A scientific-technical level, which is among the best internationally, has been achieved in lignite mining in the GDR with strip mining technology. One example is the use of several F 60 conveyor bridge combination units. Using a combination unit of this type, more than 100 billion meters of overburden are removed annually and removed to the spoil bank across the cut. More and more the change is being made to continuous conveyor belt transportation of overburden and coal, with belt widths up to 2,000 mm and belt speeds of 5 meters/sec. These figures give an idea of the technology that is being used in our lignite mining.

The economic advantages of obtaining coal by strip mining are to be balanced against factors which are a burden on the national economy. In densely populated areas with intensive soil cultivation, as is the case in the GDR, high levels of advance work and follow-on investment are necessary, about which decisions must be made from a sense of overall economic responsibility many years before the actual commencement of strip mining. With strip mining, the devastation--which is temporary to be sure but which still lasts for decades--of the surface is unavoidable. Areas used for agriculture or forestry are diverted from their proper use, villages have to be razed, roads, rivers, lines for energy and communications have to be rerouted. Because of the need for drainage in strip mining, the ground water level sinks over large areas, with all the associated negative consequences. These measures and averting possible damage require substantial investments. They are called "follow-on investments," but they almost always have to be arranged for a long time before the opening of the strip mine and the start of mining work. The cost of investment is always rising and it can amount to between 15 and 25 percent of the actual investment in the strip mine. Mining companies in the GDR are obligated to make the ground arable again after they have finished mining, to recultivate it and to return it to agriculture and forestry at a level of yield capacity that is at least the same as before its devastation. These tasks have been planned precisely by the brown coal industry for years and realized with a high expenditure of funds. As a result of close cooperation with agriculture and forestry it has been possible to return even large areas of "old mines" to the previous user in such good quality that occasionally even higher yields than before are possible. The so-called "residue holes" are included in the landscaping and are often used employed as artificial lakes for the workers to recuperate close to home. Designing the landscape in the wake of mining is part of the intensive utilization of deposits in the interests of society.

Well over 1,000 deposits are known to exist in the GDR for the many raw materials for construction and ceramics (gravel for concrete, gravel sand, construction sands, rocks, kaoline and clays). One of our primary tasks is to

A primary task is to exploit the possible advantages of the sites by giving preference to the exploration and opening up of deposits which lie within easy transportation of large concentrations of consumers. Even if higher costs are unavoidable during the mining of these deposits, because of unfavorable geological conditions or additional stages in preparation, saving expenditures for transportation can have a deep economic effect. So the use of even small local deposits of raw material for construction has a great economic significance.

A technological change has taken place in the past few years in underground mining, in which mainly salts and ores are obtained in the GDR: The transition was made to track-free haulage, using shuttle cars and conveyor belts, drilling and blasting techniques were modernized and extraction work was largely mechanized. All this has led to a considerable increase in productivity. The miner's heavy physical labor is a thing of the past. Equipment for measuring, regulating and controlling, as well as microelectronics, is being used more and more frequently in the pits. At the same time, mine safety has been increased. The teams today are much more qualified. It has been possible to reduce accident figures to the best international standards.

Qualitative Growth Factors Are in the Forefront in Mining

The increase in output was achieved in all branches of mining. This result deserves such a high rating, because the majority of mining operations are increasingly faced with less favorable geological conditions at the deposits. The average depth of digging has increased, in the strip mines the thickness of the overburden has grown deeper. These problems and reduced metal contents, inferior mineralogical composition of the broken material and more difficult processing have to be solved by purposeful research and scientific-technical measures. This requires a considerable expenditure for investment, energy and resource material. A main line for intensification is to reduce the specific consumption of these means of production.

The orientation in mining also is the exploitation of all qualitative growth factors in economic plans. The efficiency of the national economy increases, if the proven reserves, which are part of our non-renewable natural resources, are exploited more completely without having to make extensive investments. More highly refined mining products, which are improved in quality and therefore have a greater utility value for the user in further industrial processing, are economically more efficient. Improving our export sales and greater utility for users in individual consumption are also criteria for high national economic efficiency. One area of emphasis in these efforts is a reduction in the loss of raw materials. These are irreplaceable losses, which occur at all stages of production in a mining operation. They included losses during digging, extraction, haulage, preparation and processing. Even if losses of this kind can never be completely avoided, for reasons of safety, technology and economy, the percentage is still too high in many mining operations. The international average for losses when working petroleum deposits is as high as 70 percent, in hard coal mining they are close to 50 percent, in strip mining about 20 percent. Losses in preparation are between 10 and 35 percent, in chemical and metallurgical processing between 5 and 10 percent. In potash and lignite mining in the GDR, work is being successfully carried out on the use of

extraction technologies having lower losses. Research and development work in the preparation of tin ores, potash salts and fluorite have resulted in recent years in some the highest figures internationally for the extraction of valuable materials.

The comprehensive utilization of deposits is of great importance for supplying raw materials from domestic sources. This means that not only the raw materials that, as a rule, give the deposit its name are mined, but all the industrially usable material components (secondary components, associated raw materials as well as the waste from the mining production process) are mined and put to use. Today, more than 13 percent of the total demand for stone and earth raw materials in the GDR is taken from the cover layer of brown coal deposits. Valuable secondary metals are obtained from copper schist and tin ores. Bromine is extracted during the processing of potash salts. A considerable economic advantage can be gained by using screening waste as construction material, aggregate for concrete production and to manufacture rock wool. To some extent this saves us having to open up expensive "separate" deposits. The "art of mining"--today and in the future--lies in obtaining more and higher utility value from the raw materials in the part of the earth's crust that is accessible to us, in using these irreplaceable mineral resources carefully and rationally and in reducing the required social expenditure of labor.

9581

CSO: 2300/31

ELECTRICALLY POWERED TRUCKS OPERATING IN LIGNITE COMBINE

Halle FREIHEIT in German 14 Sep 84 p 10

[Article by Hans-Ulrich Koehler: "Energy Carriers Used Economically for Transport. Trucks Run on Overhead Contact Lines in Strip Mine. Inventive Design Engineers at Bitterfeld Brown Coal Combine Developed Valuable Innovation--Electric Truck Reliably Transports 30 Ton Load over Stable Roadway"]

[Text] For several weeks two unusual trucks have been in service in one of the Bitterfeld Brown Coal Combine's strip mines. They do not require even one liter of diesel fuel to move large quantities of earth, and at first glance it is obvious where they get the power to carry their 30-ton loads: Two current collectors are mounted trolley-car fashion above the driver's cab to supply electric power to the trucks from an overhead contact line.

Gerhard Liehmann, Production Director of the combine and one of the innovators involved in the project, traces the development of these trucks from the early stage of technical experimentation to their current trial operation: "We in the combine management had set ourselves the goal of restructuring transport by the beginning of June of this year in such a way that we could completely eliminate dependency on diesel fuel in the transport of attendant raw materials. That was in December of last year. The task was taken on by a large interdisciplinary collective of workers, engineers and maintenance personnel. We wanted to solve this problem in order to cut down on expensive investments which would have been necessary for further transport of attendant raw materials."

The idea to convert from diesel to electric power did not come about purely by chance, as an electrified bulldozer and an electrified excavator were already in operation in this combine sector. With the successful conclusion of development work on this project, all of the conveying and transport equipment used in mining attendant raw materials has now been converted to electric power.

A Soviet BELAS dump truck with an dead weight of 21 metric tons and a capacity of 15 cubic meters is used for moving large quantities of earth. The change-over from diesel to electric power has not affected its capacity in the slightest. Karl-Heinz Stiehler, Subdivision Manager of the combine's main plant, intimately involved in development and testing, gives the technical parameters: "The BELAS operates on 660 VDC with an output of 115 kW. The

speed of the electric motor is 2000 rpm." Experience in the Babelsberg and Eberswalde transport enterprises where trolleys are still used was helpful in designing the current collectors for the trucks. Major components were supplied by these enterprises.

The electric truck was designed such that changes to the drive train were minimized. For example, the same clutch and transmission components were used as in the diesel model.

The method of operation of the truck is naturally quite simple: The amount of current taken from the overhead contact line is regulated via resistors in 12 stages as the accelerator is depressed. After the clutch is depressed, the gearshift lever is used to put the transmission into gear and to transfer the power of the electric motor to the transmission. One of the main technical problems was elegantly solved: the laying of the overhead contact line to accommodate a transport route which changes constantly depending on the area being worked. Drawing on the old mining technology of shiftable tracks, shiftable overhead contact lines were developed, and the design engineers took steps to ensure that the roadway remained stable under all weather conditions. To date the development collective has been awarded three patents, and a fourth is being worked on in conjunction with this truck. Among the patents awarded is one which deals with heating the bed of the truck using the waste heat generated by the resistors. At the fall Leipzig Trade Fair, the "know-how" for this electric truck was one of the non-material export products offered by our country.

12644

CSO: 2300/68

HELICOPTERS USED AS CRANES IN CONSTRUCTION INDUSTRY

East Berlin NEUES DEUTSCHLAND in German 13/14 Oct 84 p 3

[Article by Siegfried Schroeder, director of the INTERFLUG Remote Sensing, Industrial and Research Flight Enterprise: "Helicopters Support Installation Work in Many Areas of National Economy. Great Economic Benefit"]

[Text] Mi-8 INTERFLUG helicopters have proven to be indispensable aids in many branches of the national economy. At the beginning of the 1960s, they became popular as "flying cranes". Due to the numerous ways in which they can be used based on proven technologies, they make an important contribution to accelerating a wide variety of construction and installation tasks.

In comparison with conventional lifting equipment, helicopters offer a wide range of advantages. They can be used to manipulate loads of up to three metric tons, with the helicopter acting as both crane and transporter. The working height is also unlimited. Comprehensive preparations which are common in the use of standard types of cranes are either reduced or completely eliminated. Great economic benefit is also realized, for example, by significantly reducing the amount of time it takes to complete a given construction project. Even complex installation jobs can be completed more quickly and effectively through the use of helicopters. In order to carry out such tasks, precise preparations for helicopter use must be made in close cooperation with industrial partners in every case.

Helicopters are an important factor in the intensification of the national economy. Their use is of particular significance in the fields of coal and energy, especially for repair and reconstruction work on conveying bridges. Flying cranes are used for on-site replacement of parts of the bridges, and conveyor systems can be quickly relocated in strip mines. This allows otherwise customary downtime to be significantly curtailed.

Helicopter crane specialists have also proven to be reliable helpers in the maintenance of coal upgrading equipment. In the Schwarze Pumpe gas combine and in various briquetting plants, helicopters are often used to quickly and precisely complete difficult tasks under complex conditions due to the concentration of many industrial systems.

In the power plants in our republic, flying cranes are used to erect and dismantle iron plate smokestacks, to replace different plant components, and even to dismantle slip forms. The specialists at INTERFLUG developed a new sophisticated technology for the reconstruction of concrete smokestacks which was first used successfully in 1983 in the "Voelkerfreundschaft" power plant in Hagenwerder. It was possible to reduce the amount of time needed by three months over conventional methods.

"Flying cranes" are highly effective in the erection of 110 kV land lines. Particularly in parts of the country which are difficult to reach by land, helicopters are used to install poles for overhead lines without causing damage to agricultural and forest management areas. Using technologies which have already become established, steel towers are completely erected via tilt joints or assembled from individual sections. The cables are then fastened to the individual towers, also with the aid of helicopters.

Helicopters are indispensable aids in the most important rationalization project in the field of transportation--the electrification of sections of railroad. The rapid pace at which electrification is proceeding is due in part to highly useful helicopter technologies. Without noticeably impeding freight or passenger service it is possible to erect poles for overhead contact lines, fly in headspans and lay electrical supply lines.

All of these tasks require high precision and millimeter accuracy. The pilots must possess excellent flying skills, and for each one of the different specialized tasks the helicopter crew receives special qualification which includes practical experience gained by flying with expert helicopter commanders. It is of utmost importance that the crew work well together. The flight mechanic must be able to understand the hand signals given him by the ground personnel, and must pass these instructions on to the commander, who in turn must carry them out precisely.

Many more possible uses for helicopters have not even been explored yet. Together with industrial partners existing reserves must be developed to make it possible to increase productivity in a number of different areas.

12644

CSO: 2300/68

NEED FOR BALANCED EAST-WEST ECONOMIC RELATIONS STRESSED

Budapest FIGYELO in Hungarian No 41, 11 Oct 84 pp 1, 19

[Article by Jozsef Marjai]

[Text] With the title "East-West Economic Relations in the Changing World Environment" the International Economic Society is having a convention together with the Hungarian and the Austrian Economic Societies. The convention has held sessions on Monday and Tuesday in Budapest and will continue its work on Thursday in Vienna.

The discussion was opened by Bela Csikos-Nagy, the president of the Hungarian Economic Society; after that Deputy Prime Minister Jozsef Marjai greeted the participants in the name of the government. We are printing his address in the following.

The shaping of the East-West relations shows a rather varied picture. Beginning with the sixties the relations have become closer and closer. The insecurity existing in the initial phase of creating relations was followed by the dynamic growth of commerce, supported by political detente. The Helsinki Final Document signified one of the most important peaks of this process. It is no coincidence that also the intensity of the foreign trade and credit processes reached its peak in this period. Experience shows that in our world politics and economy are closely connected; the turning points are, however, made even more emphatic by the changes occurring in world politics.

We experience this same connection at present when the relations between the two world systems have become tense and the earlier economic relations have loosened. Hungary, together with the socialist countries, is of the opinion that political conflicts should be resolved by talks. We think that the frank exchange of opinions and the economic relations having a mutually advantageous and complementary character can, by their very existence, contribute beneficially to reviving the process of detente. We may consider it as symbolic, too, that about the questions of East-West cooperation the scientists are arguing now within a framework

organized by the Austrian and the Hungarian economic societies. These two countries, small in size, having a long, common history, and differing today in their social systems are both profoundly interested in expanding East-West economic relations and normalizing the circumstances of world politics.

Hungary has, historically, always been interested in maintaining East-West relations. In our foreign trade the greatest weight has been represented by the socialist countries and among them especially the member states of the Council of Mutual Economic Aid. The economic relations with the socialist countries are ensuring for our economy a vast and balanced market and source of supply.

On account of this, hard-currency Hungarian foreign trade has gone through substantial changes in the past period. We succeeded in putting a stop to the deterioration of the foreign-trade balance; indeed, we reached a significantly active balance in the past years. Thus Hungary's foreign trade balance became stabilized. It cannot be denied that we paid a heavy price for this, for the indubitable successes achieved in this period and for the qualitative changes forced by forceful economic measures. The previous regular rhythm of economic growth slowed down, the ratio of investments decreased, real wages fell, and we were compelled to limit import based on hard currency. With the normalization of the situation we have, however, relaxed and continue relaxing the strictures on import economy.

In no way do we wish to solve the present economic problems by holding back imports, but rather with an active export policy. For this, conditions are substantially worse today than they were, say, ten years ago. Protectionism is widely practiced; in world trade; there is keen competition also by non-commercial means for the acquisition of markets. It cannot be denied that from several points of view, the structure of Hungarian economy is still not up to date; this fact, all by itself, is a hindrance to fast progress. Taking all this into consideration we are working toward shaping a qualitatively new phase of development, which, of course, will have to ensure also in the process the further strengthening of the external balance of the people's economy.

It is essential to stimulate growth in those branches of the economy, which are the most dynamic and the most capable of producing for export. An important means to achieve this goal is of the system of economic management the modernization presently being carried out. We have checked over the system by which prices and wages are determined, and we are making the rules continually more and more flexible. We are significantly increasing the autonomy of enterprises, we are limiting the possibilities for management to interface with the daily activity of the enterprises. We are modernizing the organization of enterprises. We are introducing forms of enterprise management by which enterprise decisions of strategic significance are made by the management of the enterprise together with the workers.

The current modernization in economic management is the organic continuation of the reform started in 1968. A condition of the successful realization of economic policy is also that our foreign economic relations should allow us a wider margin. Also from this point of view energizing the East-West relations is of outstanding significance. Going beyond traditional economic relations we are actively participating in the activities of the International Monetary Fund and of the World Bank. We are also striving to establish efficient relations with other international economic organizations.

At the various international forums we are constantly urging mutually advantageous East-West relations. As we see it, progress in this area is inhibited by various misunderstandings, mental reservations, intentions directed toward the realization of imagined interests. Observing the product structure of East-West commerce, it can be stated unequivocally that the relations are advantageous for both parties. We cannot accept the argument that from more vigorous East-West economic relations the socialist countries would attempt to derive some kind of one-sided advantage.

We must condemn the fact that some countries limit technological commerce, using artificial means. We too consider this kind of economic warfare senseless. It is obvious that not a single one of the critical points of East-West relations can be resolved with means of limitation. A real solution is achieved by means of balanced relations.

Hungary, on its part, is struggling to form such relations. The greatest need for this exists in our trade with the developed Western countries. Hungary's trade balance with this group of countries has shown a deficit for quite a while now. We believe that this situation can be significantly changed by mutually strengthening the relations. We are well aware of the fact that, in the interest of exploiting this possibility, not only the discriminative regulations that burden Hungarian export must be discontinued but that, at the same time, it is also necessary to substantially modernize the structure of Hungarian export.

We consider it important that the Western enterprises should participate to a greater and greater extent, directly, in Hungarian economic life. In the area of creating common East-West enterprises some heightening of activity has been experienced in the course of the past several years; yet we think that the potential inherent in the common enterprise form is a multiple of the present level. The form of common enterprise has an advantageous influence upon the spreading of highly developed technology and methods of organizing labor.

We are urging the Hungarians in the economic sector to independently participate in the East-West economic relations. In the interest of achieving this we have substantially decentralized the organization of foreign trade. Numerous producing enterprises have received a direct

license for foreign trade. We desire to strongly expand this process in the future, too.

In the area of regulating foreign trade we desire above all to help Hungarian enterprises in being able to occupy an actual trading position, in further strengthening their ability to compete. The technological level of the wares they deliver should be as high as possible, and also the price level of the merchandise sold be in harmony with the international tendencies. The latter is the more necessary for us, because in Hungarian economy a very great deterioration of the exchange ratio has occurred in the past ten years.

Hungary has at her disposal wide-spread East-West credit relations. The main basis for this fact is the credit policy successfully pursued for years by the Hungarian National Bank; in its background stand the export attainment of the economy and the conscious searching for a balance by the economic leadership. For enriching international credit relations Hungarian economy desires to use many kinds of methods. The process of modernization is attested to by the formation and successful operation of the Central European International Bank, an international bank--mixed enterprise.

The conference on East-West relations can best contribute to the further development of these relations if it points out in an unbiased manner the mutual advantages in these relations as well as the factors inhibiting the realization of these advantages. In this domain there is a great need of unbiased analysis on a scientific plane; after all, we can arrive at good results only by a creative exchange of opinions, by allowing the various points of view to collide with each other while maintaining a sincere intention to help.

12772

CSO: 2500/58

HIGHER CONSUMER PRICES TO OFFSET REDUCED AGRICULTURAL SUBSIDIES

Budapest NEPSZABADSAG in Hungarian 24 Oct 84 p 4

[Article by T.B.: "How Will the Agricultural Regulator System Be Modified? Symposium in the M.E.M. [Ministry of Agriculture and Food Industry] Concerning Next Year's Tasks"]

[Text] The managers of Nograd and Pest counties' large agricultural and food processing enterprises, and the representatives of the pertinent party, council and interest-protecting organizations met Tuesday in Budapest for a symposium in the congress hall of the MEM. This was just one of the regional meetings that the directors of the MEM are holding through October 26.

The speakers at the Budapest regional meeting were among others: Lajos Faluvegi, deputy president of the Council of Ministers, and Janos Eleki, secretary general of the TOT [National Council of the Agricultural Producing Cooperatives]. Miklos Villanyi, undersecretary of state in the Ministry of Agriculture was reporting. He sketched briefly this year's agricultural activities and listed next year's tasks. He then provided a detailed information about the 1985 modifications of the agricultural price and financial regulators.

Costs and Prices

Beginning next year the agricultural purchase prices of artificial fertilizers will rise by 8 percent, as a result of a decrease in price subsidies and an increase in the import prices and marketing expenditures. During 1985 the purchase prices of plant protecting agents and herbicides are expected to rise by 4 or 5 percent. Also, as a result of changes in the production and import prices, the costs of machinery, spare parts, construction materials, energy carriers and other materials will rise though to a lesser extent.

The consumer prices of agricultural small machinery will increase by roughly 11 percent, as a result of the cancellation of subsidies. On the other hand the prices of cereal, protein and mixed fodders will not change.

In order to counterbalance these justified price increases, the prices of the freely priced agricultural products and the following official prices will be increased:

With an improvement in the profitability of cattle-raising in mind, we raise the wholesale price of one liter of milk by 40 fillers and that of one kilogram of slaughtered cattle by one forint. The purchase price of slaughtered sheep will rise by 9 forints per kilogram, and that of greasy wool by 4 percent. The purchase price of sugar beets goes up by 10 forints per 100 kilograms and that of the export winter apples by 50 fillers per one kilogram.

Among the farming subsidies the one which was designed to finance the replacement of discarded ewes will be suppressed and the large farming enterprises will receive a price supplement of 3.40 forint for one kilogram of slaughtered animals instead.

The credits included in the system of subventions to certain types of investments will continue to be eligible for interest refund, the extent of which in 1985 will rise from the current 2-4 percent to 5-7 percent. The purchase of irrigation machines will automatically be subsidized by 20 percent of the purchase price. In addition to the subsidies granted for the purchase of vegetable farming machinery, the specific machines for sugarbeet farming may be eligible for a subsidy of up to 40 percent.

Subsidies granted earlier for the construction of new hog-breeding farms have been cancelled. However, a financial support of up to 35 percent may be granted for the modernization and expansion of the existing farms, provided that the investment in question aims at energy saving or the utilization of waste or second-rate materials. Subsidies for the establishment of new cow barns in the dairy farms, which were fixed at 18,000 forints per unit, will now be decreased to 12,000 forint per unit. In the future the investment subsidies, regulated by decree, will be available--in case of the implementation of a definite investment goal--also to the food processing enterprises, which are covered by the decree.

Among the farms with unfavorable production conditions those where the value of the per hectare average yield of the cropland did not exceed 19 gold crown as per 31 May 1984 will be eligible for subsidies beginning in 1985. Such farms will receive differentiated price subsidies on their sales revenue, depending on the gold crown value of their cropland. The rate of these subsidies will range from 3 to 24 percent in case of plant production, cattle, sheep and goat breeding, and from 3 to 12 percent in the other branches of animal husbandry.

Taxation and Income Regulation

The system and rates of taxation will remain generally unchanged. However city and village taxes will be increased from one to 3 percent of the gross income. Insofar as the income regulations are concerned, the farms and enterprises can choose from among three systems, i.e. regulation based on the wage-fund, pending on the added value, regulation based on the wages pending on the gross income level, and regulations based on the taxation of the big-estate income. Once one system has been chosen, no change is possible for three years.

The investment purchasing power in the farming and food processing enterprises will be regulated by the accumulation tax, instead of the current complex, multi-channel system. The basis of this will be the investment expenditures plus the amount turned over to the revolving fund. The rate of tax will be the following: on hectare values up to 14 gold crowns 8 percent, from 14 to 19 gold crowns 20 percent and beyond that 23 percent. The following will be exempted from the accumulation taxes: new plantations, meliorations, certain purchases of machinery which serve the farm's basic business, and the growth in the stockpile of the farm's own agricultural produce.

Beginning 1985 the formation and utilization of the funds and the regulations concerning income distribution will change significantly.

In conclusion the undersecretary of state spoke about the tasks of the future, noting that these are essentially determined by the timely and high-quality implementation of the autumn farming tasks.

Uninterrupted Development

Vice-President of the Council of Ministers Lajos Faluvegi praised the achievements of food production, emphasizing the role of agriculture and food industry in preserving our country's solvency and noting that even under difficult marketing conditions they have been able to meet the requirements. Agriculture has become an important factor of development and an incentive of progress in our national economy. It is also therefore important that its modernization process should go on uninterrupted. He also called attention to the need of meeting more flexibly and with more foresight the oscillations in the world market demand, and to the fact that we should brace ourselves to the changes in weather. An important role is being played in this by the pertinent government agencies and of course by the farmers themselves, whose scope of action has been expanded by the new forms of enterprise, by the modern organizational, wage-computation and managerial systems, which are increasingly being applied to the management of the farms, and also by the new models of income regulation.

12312

CSO: 2500/71

HIGHWAY CONSTRUCTION PROGRAM TO BE LIMITED

Budapest NEPSZABADSAG in Hungarian 26 Sep 84 p 1

[Text] Minister of Transportation Lajos Urban surveyed the developments of the last few years at a press conference held in the Parliament building 25 September 1984. He also reported on the future goals of his ministry. He pointed out that due to a slowdown in transport and shipping there are no bottlenecks in public transportation or in the transport of goods. An expected boost in passenger traffic on railroads was expected by the Sixth 5-Year Plan, however, due to a rise in fares, traffic dropped instead by 20 percent. Sweet and sour go together: due to a decline in demand, for the time being, transportation can meet the existing demands both in quality and quantity--even if there are occasional set-backs. The ratio of personal transportation has increased during the last couple of years.

At present there are 3,000 private taxis in Budapest and 2,500 in the countryside. All of them are expected to be fitted with the long-awaited meters by the end of this year. Non-transport companies own nearly 10,000 buses out of which 4,000 buses would be suitable for public transportation. Years of organizing resulted in their partial utilization: some of them transport children to and from schools and kindergartens at certain times of day and are used for the common good in various ways. A previous regulation which intended to bring about a higher level of organization in transportation has been effective so far. This regulation imposes a fine of 3 forints which is to be paid each time there is an unused capacity in excess of 100 kms of the transport vehicles--on the way back from destination. The effectiveness of this measure is shown by the fact that the amount of money paid as fines has dropped by 40 million forints in one year.

Speaking about the most important achievements of the present plan period the minister pointed out the completion of the highway between Bicske and Tatabanya. M 1 is under construction and an end to traffic jams between Budapest and Tatabanya is expected by the autumn of 1986. Construction has also been completed on the M 3 as far as Gyongyos and a new border-crossing has been opened at Hegyeshalom. Two new lanes have been added to the two-lane road between Budapest and Szentendre. There are new traffic junctions at Békéscsaba and Nyíregyháza. There are more than 200 kilometers of new highway bypassing cities. Reconstruction work at railway junctions and railway stations has not

been accelerated because the sum of money allocated to these investments has dropped by 10 percent. Only strict adherence to priorities can lead to future results. Such prioritization applies to the present, too.

The modernization of the freight railway station of Ferencváros is already part of this program, along with the nearly finished construction at Kelenfold and the step-by-step electrification of railway lines. The new passenger-area is the second step in the plans concerning Ferihegy airport. The technical modernization of the airport goes along with the construction of new runways for landing and taking off. In Budapest the Marx, Boráros and Florian squares have been rebuilt, the Árpád bridge widened and a new subway line is about to be opened.

Less money will probably be allocated to future development plans. However, say the experts, there cannot be any further delay in the construction work of the M 0 highway which would encircle the capital—at least not in the construction of its first section which would connect the M 1 highway with the M 5 through construction of two additional Danube bridges. The ministry would like to continue construction of the above. Since all these constructions are of the utmost importance the ministry wishes to have them debated at numerous social forums. In Hungary there are still transportation-safety problems—the country has one of the highest fatal accident rates in Europe. A better organization of traffic is needed. Fares of local public transport have not changed since 1966. A change is to be expected; however, plans haven't been elaborated nor have decisions been made regarding this. Some informative data: fare tickets may go up in price 60-100 percent; season tickets less.

12779

CSO: 2500/23

NOT LEADERS, ECONOMISTS CONFER ON REFORM, SCI-TECH PROGRESS

Warsaw RZECZPOSPOLITA in Polish 3 Oct 84 p 2

[Article: "Technicians' and Economists' Point of View; Reform and Technical Progress; Chief Technical Organization and Polish Economic Society Conference"]

[Text] Does the process of economic reform encourage technical progress? Opinions differ. What the technicians see is different from what the economists see. Differences of opinion are based on rich individual experiences. However, the point is to get generalized, objective recommendations on how to solve a problem which has great importance for modernizing the economy and for satisfying society's needs.

The conference, called "Reform and Technical Progress," which took place on 2 October in Warsaw was organized as an attempt to get technicians' and economists' positions closer together, which is essential in view of the impact of the reform process on technical progress. The conference was organized jointly by the Chief Technical Organization [NOT] and the Polish Economic Society. The following participated: Tadeusz Witold Mlynczak, deputy chairman of the State Council; Minister Wladyslaw Baka, government plenipotentiary for economic reform; representatives of many ministries and central offices.

An assessment of the experience gained in implementing the economic reform was presented by Professor Zdzislaw Sadowski, deputy government plenipotentiary for economic reform. He emphasized that the reluctance to introduce innovations is not a new but an old characteristic of our economy. The reform cannot be blamed for it. It should be regretted, however, that we have not overcome that problem even today. The most important task of the reform should be to create conditions encouraging the spirit of enterprise, which should be understood as innovative initiative based on correct economic calculations and supported by the capability to adjust quickly to the changing economic conditions at home and abroad.

Professor Jan Kaczmarek, chairman of the Chief Technical Organization, presented a comprehensive assessment of the mutual dependency existing among scientific and technical policy, the economic reform process and technical progress. Inter alia, he pointed out the problem that the development of methodology alone is insufficient and that operational programs and proper balance between central and local planning are indispensable. Also, he said that the selection of proper economic tools is necessary and that these tools should force independent enterprises to improve their efficiency.

Professor Jozef Pajestka said in his speech that we would be blind if we believed that the reform has solved the problem of technical progress. The only question is whether, after such a short period of the reform in operation, better results could have been expected. Professor J. Pajestka emphasized that, as the situation in many areas of reform indicates, we still are at the beginning of the road to restructuring the economic system in our country. This especially applies to matters of supply, investment and organization of production. Despite all that, as had been said by Professor J. Kaczmarek as well, a lot has been done to improve the effectiveness of our efforts in the technical progress area. In addition to the felt needs, there is also the spirit of innovation. This is a cultural characteristic which we have to instil in our society. The engineers should be the missionaries of innovation.

The confrontation of technicians' views with those of economists showed that there are many areas of agreement. Also, there is agreement that only a continuing and consistent implementation of the economic reform can develop economic pressure to reach for an innovative technical, technological and organizational solution. With all due respect for the necessity of establishing management principles, it must be said that ineffective reform procedures must be replaced with new and better devices.

8801

CSO: 2600/61

PRESS BRIEFED ON SCI-TECH PROGRESS IN INDUSTRY

Warsaw RZECZPOSPOLITA in Polish 11 Oct 84 pp 1, 2

[Article: "Technical Ideas Must Be Used. A Conference in the Government Press Office"]

[Text] On 10 October, a press conference took place to discuss matters related to technical progress in our country. Participants in the meeting included those persons who take care of innovations in the four most important fields: metallurgy and machine tools industry; chemical and light industry; science, higher education and technology; and the Patent Office of the Polish People's Republic. The attendees were handed a list of latest inventions and improvement projects which are marked for implementation or which already have been adapted by industry and are producing tangible economic benefits.

During the meeting, the problem of motivation for developers of new technology was discussed. The amended law on inventions is the first step to smooth the thorny road "from idea to industry." A change of reward for inventors, however, does not settle everything. It is necessary to make some organizational changes as well. Preparations are in progress to establish a central organ charged with guiding scientific and technical progress, namely the Science and Technical Progress Committee, and its executive element, the Implementation Office.

Financial support for technical development is not as it should be. Despite the fact that each enterprise should look far ahead and understand that its future depends on using innovations, the reasoning is still prevalent that it is best, because it is least difficult, to make the old product rather than take the risk which is inherent in the introduction of new innovative solutions. This mentality must be radically changed.

The engineering and technical cadre must impart an able and skillful tone to the field of economic decisionmaking.

There is no shortage of inventive solutions. There are over 1,000 inventions at the Ministry of Science, Higher Education and Technology, all of them submitted this year. The Ministry of Metallurgy and Machine Industry offers a selection in which 40 percent are new products. The Council of Ministers Office has a list of the most valuable inventions which should be included in new products on the market.

NEED FOR IMPROVING QUALITY OF SEEDS

Bucharest SCINTILIA in Romanian 3, 4, 10, 26 Oct 84

[Article by Iosif Pop: "High-Quality Seeds Essential to Future Rich Harvests"]

[3 Oct 84, pp 1, 5]

[Text] In the last few years the party documents and the secretary general's speeches on various occasions have increasingly emphasized improvement of the system for raising seeds, a consideration that we consider vital to growth of agricultural production and the greater effectiveness of the entire activity of this basic sector of the national economy. As we know, a special program for raising seeds and planting stock has been adopted for that purpose, with the major aim of rapidly generalizing production of seeds in the preferred and first-propagation biological categories. Since the 1984-1985 agricultural year is critical to production of quantities of seeds in accordance with the structure of the biological categories set by the said program, we are calling attention to the following points: the need of increasing the yields per hectare on lands producing seeds of a high biological value, the narrow attitude taken by some agricultural organs that are not delivering seeds to other counties, every county's obligation to procure its wheat and barley seeds out of its own output, and strict observance of the agrotechnical standards for seed crops.

Both last year and this year the program for raising preferred and superpreferred seed gave priority to propagation of genetically well-consolidated varieties with a high biological value. Of the varieties in cultivation, totals of 51,500 tons of preferred wheat seed and 11,900 tons of preferred barley seed were to be obtained in 1984, but those program provisions were not entirely fulfilled (Only 45,000 and 8,000 tons of preferred wheat and barley seed respectively were obtained), primarily because of the low yields per hectare obtained last year in some agricultural units and even throughout some counties. The specialists estimate that in view of the production norms the seed plots should produce at least 3,000 kg of STAS [State Standards] seeds per hectare, making this activity profitable for the producer units. Experience in propagating preferred seed of varieties under cultivation this year shows that many agricultural units in all counties have obtained such yields. For example, the Baneasa-Giurgiu Research Institute for Irrigation produced 4,500 kg of Fundulea 29 seed per hectare, the

Cobadin IAS [State Agricultural Enterprise] in Constanta County produced 4,100 kg per hectare, and the Tiganesti CAP* in Iasi County produced 3,200 kg per hectare. But it should be noted that the average yield of all units propagating preferred seed last year is far below that of wheat for consumption. The Stefan cel Mare CAP in Arges County obtained an average yield of only 920 kg of super-preferred wheat seed of the Iulia variety, while the Serdreni IAS in Galati County and the M. Kogalniceanu IAS in Tulcea County obtained only 1,250 kg per hectare. The Lehliu IAS in Calarasi County and the Dingeni IAS in Botosani County obtained only 1,200-1,600 kg per hectare of barley of the Miraj variety. Then there are a number of counties with yields below 2,000 kg per hectare from their entire areas planted to produce preferred seed, namely Bacau County with 1,500 kg, Satu Mare County with 1,600 kg, Botosani County with 1,620 kg, Galati County with 1,820 kg, Teleorman County with 1,870 kg, and Tulcea County with 1,900 kg.

How can the specialists in those units explain such low yields? We have heard specialists trying to explain them primarily by errors in the statistical reports. If there is such a conviction, it is difficult to understand why the decision-making organs in the competent ministry and the regional inspectors for control of seed quality do not take legal action to sanction those violations of discipline.

In a matter of securing the integrity of the national seed supply, it is necessary to strongly oppose the narrow attitude displayed by some agricultural organs in refusing to deliver the quantities of seeds intended for other counties according to the production program. This applies to the agricultural organs and the specialized enterprise in Dolj County, who purely and simply refuse to deliver the preferred seed of the Lovrin 34 and Libelula varieties, disrupting seed propagation in no less than eight counties. It is also true of Constanta County, where the elements responsible for management and distribution of super-preferred seed have assigned it to various units in the county instead of delivering the quotas of barley seed to Timis County. Do those agricultural organs not know that when the competent ministry gave a priority to production of seeds in the valuable categories in the counties with better natural conditions it did so in order to propagate them rapidly and also to secure a supply permitting organization of seed plots in all counties? These disciplinary infractions must be completely eliminated. Accordingly, prompt and firm action is expected of the county party committees where the standards governing seed production in Romania are being violated in this way. For if firm measures are not taken to fully enforce the seed production program, next summer some counties might deliver for consumption some of the wheat seed output raised on the seed plots, and that would be injurious not only to the respective producer units but to the national economy as well.

One of the essential requirements for improving the present seed production system is for every county to produce its entire requirement for wheat and barley seeds of all the basic varieties. What is the present situation in this respect?

Let us note, for example, how the program provisions for first-propagation wheat seed are being implemented. In 1984 only 199,533 tons, or 85 percent of the provisions, were produced compared with the planned 235,000 tons. Many counties (Arges, Arad, Calarasi, Dolj, Bihor and Satu Mare counties) delivered

*[Agricultural Production Cooperative]

large quantities to other counties in addition to producing all of their own seed requirements. Yet the program tasks were not fulfilled and consequently areas larger than those originally planned will be sown this fall with seed from the second propagation. This activity was improperly organized in some agricultural units in Gorj, Salaj, Botosani, Cluj, Neamt, Mures, Tulcea, Ialomita, Teleorman and Bacau counties, which obtained only 40-65 percent of their seed quotas specified in the program.

Of course the above-mentioned shortfalls are largely due to disregard of the production technologies for the seed crops, resulting in low yields. In a number of agricultural units in Ialomita, Teleorman, Cluj and Giurgiu counties some of the seed deteriorated after reaping because the respective crops were harvested before the grains had fully ripened. To illustrate the harmful effects of such practices, we shall say only that Giurgiu County had to import about 2,000 tons of barley seed from other areas, much of it from the second propagation, although in summer large quantities of such seeds from the first propagation were delivered to the combined fodder factories.

Actually over 61,000 tons of wheat, barley and two-row barley seeds were transferred from one county to another throughout all agriculture. The present system of delivering seeds among counties is so complicated that you wonder how the elements involved succeed in solving the problem satisfactorily. For example, Arges County delivers seed to 15 counties while Bihor and Satu Mare counties deliver it to 12 counties. All those massive shifts require heavy outlays that do not always result in the production increases expected after this massive redistribution of seeds. The problem of self-supply of preferred and first-propagation seeds is to be resolved in the light of the high proportion in a crop of the seed obtained in these higher biological categories. Such a system for self-production of seed would also solve many of the problems of better zoning of the varieties. But this problem and that of regional organization of seed production will be taken up in a future article.

[4 Oct 84, p 2]

[Text] In continuation of SCINTELA's analysis, we are presenting other aspects of improvement of the seed production system and emphasizing the need of urgent measures on the part of the Ministry of Agriculture and the Food Industry and the Academy of Agricultural and Forestry Sciences to remedy the defects in that activity.

To return to the problems of improving the system for organization and production of seeds, we are calling the attention of the central and county agricultural organs and management personnel in research to some other essential aspects. One of the first questions is whether the seed farm is that model of organization and application of the most advanced technologies that will set standards for all activity in the crop production sector in all respects.

Without in the least underrating the good results of many farms, we cannot overlook some irregularities and deviations from the agrotechnical norms in the way seed production is organized and especially in the way it is practiced in some units. What arguments should be brought in support of this statement, other than the low levels of the yields logged on some farms producing seeds and the

unsatisfactory quality of their production? This raises the question whether the agricultural organs actually understand how to organize the seed production system in their areas. They do not invariably select for this purpose the most representative agricultural units equipped with the material resources needed to perform the operations specified in the seed production technologies and highly qualified specialists. One wonders why a list of seed production farms in Teleorman County, for example, does not contain the cooperatives known for their high yields and high degree of organization such as Purani, Putineiu, Furculesti, etc. Besides this list there are the Salonta, Madaras and Calacea CAP's in Bihor County or the Topolovatul Mare and Dinias CAP's in Timis County, which can set examples by their efforts to test new and highly productive varieties and introduce them in cultivation. This situation is to be explained primarily by the tendency of some county agricultural organs to view seed production more as a means of increasing the incomes of units with poor economic results, and the haphazard propagation in those agricultural units results not only in low yields but also in depreciation of the biological value of the seeds produced. This explains the great differences recorded among the agricultural units in Botosani, Caras-Severin, Neamt, Teleorman, Tulcea, Alba, Cluj, Gorj and other counties in the yields and quality of the seed.

The question of eliminating the present excessive dispersion of seed production also arises in close connection with specialization of the agricultural units. Throughout the nation, production of seeds and planting stock is organized in 974 agricultural units with a total of 1,686 farms. To be sure there are cogent reasons for some dispersion over the area of this activity, but a fragmentation like that recorded in some counties (Harghita, Brasov, Botosani, Vaslui, Tulcea, Prahova and Dolj), where there are seed farms in about half of all the agricultural units in the county, is a practice that has nothing in common with the scientific principles basic to the seed production system. Can anyone prove that Dolj County, for example, now has enough material resources and specialists to allow itself to organize production of seeds and planting stock on no less than 101 farms, or that it is rational for Harghita County, for example, to organize enough seed farms for a large crop about 3 times greater than that of Mures County? I do not mean by these examples to advocate an excessive concentration of seed production, for that is far too risky. But I want the competent agricultural organs to analyze the quality of the farms authorized to produce seeds and planting stock, which quality is often below the standards for a unit entrusted with the management of this wealth.

Three main zones of favorable soil and climate have been determined for a rather less than scientific geographic distribution of the varieties. The varieties of wheat that will be raised in each zone have been specified according to this general delimitation, primarily in view of their biologic and physical properties. Although this general zoning is highly approximate, due particularly to the diverse climatic and soil conditions that often differ even within the same unit, it should be pointed out that in general it provides a preliminary basis for the geographic distribution of the varieties, and especially the bread grains. How is this zoning reflected in seed production practice? In the absence of any report on the structure of the wheat varieties that are now being sown in the counties, we shall try to reply on the basis of the way production of preferred wheat seed has been organized in the area and some data on the exchanges of seeds

among counties. What do these data show? Primarily the fact that many counties are making responsible efforts to form a structure that will provide high yields under the given conditions and secure ones in particular. In support of this we shall say only that the new wheat varieties of high biologic value developed by Romanian improvers (Fundulea 29, Lovrin 32 and 34, and Transylvania) will be sown over an area of more than 1.3 million hectares in the new agricultural year. The radical changes are noteworthy that have been made in the structure of the varieties raised in the agricultural units in Timis and Arad counties, where after several years of unsuccessful experiments they have gone back to the Romanian varieties with a high biologic potential and adjusted to the conditions of climate and relief in the Banat. A good varietal structure has also been achieved in Olt County, where the Caracal Agricultural Research Station and the Studina IAS are making a major contribution to it by the high value of the preferred seeds they are producing.

But the actual activity of producing preferred seed even last year showed some excesses and even deviations from the scientific criteria for zoning the wheat varieties throughout the country. In the dry climate of Dobrogea, for example, the units producing preferred seed in Tulcea County were adapted to propagation of the Partizanka and Rana 2 varieties peculiar until recently to the Banat, where they were introduced into cultivation. In Bacau County, the Secuieni Research Station did not produce a single kilogram of preferred seed of the Moldova variety this year, which was specially developed for that area. Instead of that it is propagating the Transylvania variety which, even if it has the right conditions for cultivation in that county, should be propagated in the zone in which and for which it was developed. Some producer units in Dolj, Satu Mare, Vaslui, Neamt and Botosani counties are also propagating some varieties uncharacteristic of the zone. Some agricultural units have a strong research base, but instead of serving as the great field laboratory wherein the varieties characteristic of the respective zones are to be improved, they are noted for testing and investigating some varieties that the specialists even in their neighboring counties are beginning to abandon.

In mentioning this last bad aspect of seed production activity, I really want to bring up the very way this activity is organized and directed. According to the regulations in force, the Ministry of Agriculture and the Food Industry jointly with the Academy of Agricultural and Forestry Sciences is responsible for production of seeds and planting stock. It is their duty to secure the entire seed supply through the units under them. Theoretically at least, they are supposed to have laid the foundations for a uniform seed production system*, whereas actually they continue to display a great fragmentation of responsibility especially for propagation of the varieties, because this cooperation goes on primarily on the level of the central organs and rarely on that of the counties and agricultural units. Let us take for example two important agricultural areas of the country, the Banat and Dobrogea. Two research stations, Lovrin and Valului Traian, renowned for their good results, are operating in these areas. According to the regulations in force the specialists at these stations, in addition to their research functions properly speaking, are required to guide and lend technical aid to the agricultural units organized to propagate the seeds. The question is, how can the researchers there meet those obligations effectively while in the Banat area alone seed production is organized in 98 agricultural units

*Through direct cooperation between the research and production units.

with 155 farms? When we inquired at the Agighiol CAP in Tulcea County who provides technical aid in actual practice and how it is done on the two seed farms, we were told that they had not seen a single researcher for more than 3 years. And you wonder how a yield of only 1,800 kg of wheat per hectare was obtained from the preferred seed propagated this year. It is from this situation and many others like it that the decision-makers directly involved in the competent ministry and agricultural research should proceed when they propose to make the long-awaited and absolutely necessary basic improvement specified in the seed production program approved last fall by the party administration.

In a future number of the paper we shall discuss questions of production and procurement of seeds of fodder plants.

[10 Oct 84, p 3]

[Text] We are pointing out to the Ministry of Agriculture and the Food Industry and the Academy of Agricultural and Forestry Sciences some problems of improvement of the system for producing seeds for fodders.

We are discussing another problem today in the third part of our analysis of seed production, namely quantitative and qualitative procurement of the seeds needed to improve the fodder supply. Accordingly we are calling the attention of the central and county agricultural organs and the management personnel in research to a primary essential problem, namely the structure of the fodder crops in their own fields.

In criticizing the unsatisfactory situation created on some zootechnical farms by irrational foddering of the livestock and especially the cattle, the party administration asked the Ministry of Agriculture and the Food Industry and the research personnel several years ago to draft a special program for qualitative improvement of the structure of the fodder reserve. The essential aim of this program is to increase the proportion of the legumes to at least 60 percent of the fodder crop structure. Moreover more than 800,000 hectares of the 1 million hectares of natural pastures to be placed under cultivation by 1985 are to be sown with perennial legumes. To these ends a special program was drafted at the same time to provide quality seeds to supplement the fodder plant structure harmoniously and scientifically. Are the goals set in that program guaranteed?

Let us begin with the structure of the fodder reserve formed in 1984 and see whether the quantities of quality seeds obtained this year will raise the proportion of clovers in 1985 at least to the specified level. The clovers took up 408,000 of the million and more hectares assigned this year to fodder crops in their own fields, or 40 percent of the entire area. The agricultural units in Salaj, Galati, Ialomita, Arad, Timis, Vaslui, Vrancea and Bihor counties are above this average. The foundations of this basic improvement in the fodder crop structure were actually laid in the last few years, when the areas planted in clovers in seed plots were expanded, and an annual average of 200-450 tons of alfalfa and clover seed are obtained from them in the respective counties. Timis County is an example of this, where the proportion of legumes has been increased from 10 to 50 percent in only 2 years, and the cultivated areas are rationally assigned to the county's two agricultural areas.

While citing these good examples we cannot overlook irregularities in quite a few units, and an intolerably superficial approach to the program tasks. Let us analyze, for example, the way the agricultural organs in Constanta, Caras-Severin, Covasna, Mehedinti, Botosani, Neamt, Prahova and Dimbovita counties have tried (or more accurately, have not tried) to expand the areas planted in clovers. For example if the specified crop structure is to be achieved in Mehedinta County in 1985, 3,000 hectares must necessarily be sown annually with alfalfa, out of the locally produced seed of course. Only 1,827 hectares were so sown in the whole county this spring. In Neamt County, where the area in clovers should be doubled, only a little more than 1,400 hectares were sown this year. In conclusion it must be said that due to failure to provide the seed, about 150,000 hectares throughout the country could not be sown with alfalfa and clover this spring. The fact is that at present in both proportion and absolute size the area planted in clovers is below the level reached 10-12 years ago.

The quality of the clover seed is a second problem we are calling to the attention of the central and county agricultural organs and the management personnel in the agricultural units. What biological categories of seeds are being propagated and particularly, in what quality are they produced? Officially at least, it is estimated that in the last few years seed plots were organized on a total area of 32,000 hectares to produce alfalfa and red clover seed, and those plots were to produce about 6,000 tons of seed a year. Last year 4,010 tons of useful seed were obtained, and a total of 3,500 tons is estimated for this year. In addition to the fact that this quantity is only half of that obtained in agriculture 10 years ago and that it is not enough to expand those crops to the specified proportion, the problem arises as to the unsatisfactory quality of that seed. The fact that the agricultural units are producing very small quantities of preferred and first-propagation seed to be able to lay the foundations of a truly scientific system for propagation of fodder seeds is a major consideration that should be not only a cause for concern to the competent organs directly involved but also a reason for firm measures to remedy this unsatisfactory situation. This year agriculture had only 30 tons of preferred alfalfa seed and 2.5 tons of preferred red clover seed, from which it is expected to obtain 1,000 tons of first-propagation seed. Even assuming the expected yield will be produced, only 10,000 hectares will be sown with seed in that category in 1985, which is very little considering that the clover crops are aged in many agricultural units.

Another aspect of the quality of clover seed is its high degree of impurity. Traditional experience in clover seed production as well as the experience of many units indicate that seeds with a physical purity of at least 85 percent can be obtained without too great efforts by observing the technologies for cultivating and harvesting the seed plots. But in the conditioning campaign of 1983-1984 only 780 tons, or 13 percent, of the 6,104 tons of clover seed sent to the dedoddering stations reached such a degree of purity. The fact is that at the end of the dedoddering campaign whole trails of weeds and soil carried for hundreds and hundreds of kilometers were assembled around the stations instead of local precleaning of the seeds by the agricultural units. Besides the heavy investment and useless consumption of fuels in transit, this "ballast" even interferes with the operation of the dedoddering installations, since three passages through the centrifugal installations are necessary to condition the seeds, meaning useless consumption of iron filings and prolongation of the processing campaign.

According to a special program adopted several years ago, 1 million hectares of pasturage are to be reclaimed for arable land by 1985, so that 388,000 hectares will be planted in alfalfa and red clover, 107,000 hectares in sainfoin, 254,000 hectares in white clover, 89,000 hectares in bird's-foot trefoil, etc. Now that the deadline is near, comparison of these objectives with the results so far indicates that by the most optimistic estimates 250,000 hectares at most out of the 1 million hectares can be cultivated next year and even those not so much with quality fodder plants like those specified in the program but primarily with perennial grasses and darnel, also because of failure to provide the necessary seeds. The county enterprises for improvement and exploitation of pastures that are directly responsible for implementing the said objectives have produced an annual average of only 50-60 tons of alfalfa and red clover seed together, 18 tons of sainfoin seed, and almost no white clover or bird's-foot trefoil seed at all. Not probably but certainly the managements of those units were quick to realize that from their strictly financial viewpoint it is much more profitable to arrange for production of perennial grass and rye grass seeds to sell to the agricultural units later than to bother with propagation of such exacting seeds as those of clovers. For example, when you analyze the crop structures of the stations under the Magurele Research and Production Institute for Pasture Cultivation in Brasov County you are left with the impression that those units have more of a bread-grain production structure than one of fodder plants, the improvement of which is their very *raison d'etre*.

In discussing production of seeds for fodders, we should normally also take up the way the agricultural organs have tried to propagate such scarce seeds as those for vetch, white clover, radishes, carrots and fodder beets. But we are not doing so because with minor exceptions those still constitute an unresolved problem. Most of the seed for next year's fodder beet crop will be imported as before, although examples can be cited proving that through effort and skill average yields per hectare can be obtained at least on a par with those in the countries that supply us with that seed. To demonstrate that we shall say only that this year the Zimnicele IAS in Teleorman County harvested a record 3,000 kg per hectare not by using who knows what peculiar technologies but one which was practiced traditionally in Romania with good results but which no longer seems to please those who are concerned with the methodology of this crop today.

The foregoing analyses were intended to present and call attention to some of the general problems of seed production. For a better explanation of this question, we are inviting the specialists and researchers to a discussion, as well as all those who through their ideas and suggestions can provide ways of improving, in the spirit of the legal regulations, this activity vital to growth of agricultural production.

Review of Subjects Discussed

Quantitative and qualitative procurement of the seeds needed to improve the fodder supply.

Every county's obligation to procure its seeds out of its own output.

Strict observance of the agrotechnical standards for the seed crops.

Level of organization of units and farms specializing in production of seeds and planting stock.

Observance in practice of zoning of varieties.

Necessity of uniform organization and coordination of all seed production activity.

[26 Oct 84, p 5]

[Text] In continuation of the analysis for improvement of the seed production system, we are discussing another important problem today, namely quantitative and especially qualitative procurement of vegetable seeds.

Let us begin with three basic elements: (1) the highly diversified structure of the vegetable crops, (2) the level of organization of the farms specializing in seed production, and (3) improved zoning of vegetable production and, closely related to the latter, adaptation of the vegetable farms to production of seeds and especially indigenous varieties whose adaptability and high productivity have been verified in the regions and areas where they were actually developed and improved over the years.

According to the approved program and in view of the total area and varietal structure of the crops specified in the plan for next year, a total of 47,700 tons of seeds of vegetables properly speaking was to be produced in 1984, in addition to 5,100 tons of seeds of edible legumes (kidney beans, broad beans, peas and lentils). It should be stated from the start that the program provisions were implemented quantitatively for most varieties of seeds, namely tomato, pepper, eggplant, winter cabbage and cucumber, and there were even some stockpiles left from last year. There are not enough seeds of onions, garden beans, okra, chives and garlic.

But let us see what the quality is of the vegetable seeds being propagated. It should be noted that superpreferred and preferred seed was used for most varieties on the areas assigned to propagation of tomatoes, peppers, eggplant, cucumbers, carrots, celery, cabbage and cauliflower, which to a great extent explains the good yield of seeds obtained for those species. But how is this situation as regards peas and kidney beans, which are two of the varieties in high proportions of the public's consumption of vegetables? For example, out of about 4,200 tons of garden bean seed this year there were only 75 tons of preferred seed and 640 tons of first-propagation seed. This means that next spring 83 percent of the areas to be planted in that vegetable will receive seed of low biological value. The situation is equally unsatisfactory in the case of field beans, where seed in the higher biological categories is provided for only 22 percent of the area to be planted in 1985. Paradoxically the problem of seed quality is also still unresolved in the case of both garden and field peas, since the quality seeds for those crops amount to only 10 percent of the total quantity obtained this year.

We are not going to dwell upon the other biological categories of seeds of the species generally used by the specialized farms because we are convinced that there is no accurate information about them even on the county level, to say

nothing of the competent central organs. We are basing this statement primarily on our own findings from farms producing kidney beans in the CAP's in Tulcea, Giurgiu, Dolj and other counties, where the specialists explain the low yields of this crop on the quite unsatisfactory quality of the seed. What we wish to bring up is the inadequate way itself in which the research program for these vegetables is devised and applied in practice. Under the present arrangement, two research institutes are concerned with problems of improvement of those crops, namely the Vidra Research Institute for Vegetable Cultivation, with the task of improving and developing new varieties of garden kidney beans and peas, while the Fundulea Institute has the task of improving field kidney beans and peas. However the competent organs try to explain this duplication, their arguments can have no real scientific basis as long as Romanian research not only has gradually given up improving some indigenous varieties of great biological value but also cannot adequately propagate the seeds of the imported varieties. Can the Romanian researchers say they have fulfilled their tasks when we have not extended a single indigenous variety of peas, for example, over large areas and not even the traditional varieties of kidney beans can be generalized in large-scale cultivation, although they are actually raised on the private farms with outstanding results? It is true that something has been done to develop new varieties and improve the traditional ones, especially at the Isalnita research stations for vegetable cultivation in Dolj County, but the seeds produced this year are less than 1 percent of the total needed for the kidney bean and pea crops specified for 1985.

The geographic allocation of the farms for vegetable seed productions was based on the idea that every county would meet its entire seed requirement, especially for vegetables with large grains. To this end it was decided to organize vegetable seed production on at least 366 farms, including 90 strictly confined to vegetables. But shall we see what actual results that organizational idea has produced?

Since the great majority of seeds of the basic vegetables (tomatoes, peppers and eggplant) are produced primarily in the southern and western counties, we shall analyze the situation from the standpoint of scarce seed production. Accordingly let us check where and how onion seed has been produced. According to the data from the competent organs, Arad and Dolj lead the counties producing it, having produced over half the onion seed this year. Then come Ruzau, Braila, Calarasi, Giurgiu, Olt and Timis counties which, together with the two above-mentioned counties, produced 94 percent of all the onion seed. Therefore the same counties that produce tomato, pepper and eggplant seed came to specialize in production of onion seed, although actually only two of them, Ruzau and Arad counties, had any particular tradition for it. The vegetable farms in Brasov, Bistrita-Nasaud, Salaj, Hunedoara, Teleorman, Cluj, Iasi, Vaslui, Vrancea, Gorj and other counties are entirely absent from the list of onion producers. We have not listed the counties haphazardly. Who has forgotten the part played by the Fagaras region in the production of red onions and especially in improving the variety? Only some traces of the local variety of red onions in the Bistrita area are still preserved at Teaca, and that is due to the perseverance of the simple peasant, who took the pains to keep the qualities unaltered to the best of his ability. In the Dimbovnic valley, especially below Gratiu and Draghineshti in Teleorman County, the prosperity of an impressive number of farmers

was largely due to the incomes from sales of the famous water onion. In Salaj County the onion growers in the Sisleu Silvaniei area were recognized and in demand on the big markets in Oradea and Cluj for the quality and beauty of the products they were selling. In Hunedoara County the red onion provides impressive yields on the private farms even in the Ghelar hill zone. Should those counties not even appear in the plan on the list of onion seed producers? In speaking of the effort that was made (or rather was not made very much) to improve the traditional onion varieties, suffice it to say that the seeds derived from those varieties, including the newly developed ones, amount to 1 percent of all the onion seed produced this year.

The same shortcomings in onion seed production are also to be found in chive production, except that some vegetable farms, especially in Mehedinti and Mures counties, even allow themselves to disregard the plan concerning the area planted in that variety.

In the case of garlic seed, after many years of efforts to acclimatize varieties typical of the mild climate of Spain, Italy or Turkey and after unsuccessful searches in Asia and Latin America, they went back to the idea (that should not have been abandoned at any price) of improving and expanding the traditional varieties. And so we are producing the garlic of Darasti, Bucovina and Rimnicu Sarat, as well as the tasty Copalau garlic, again and with very good results in many areas. This year 3,770 tons of these and other varieties were produced, and there are guarantees that this quantity will be doubled next year. The chosen course is a good one, and we think it can also provide lessons for production of the other scarce vegetable seeds.

In calling the central and county agricultural organs' attention to the level of organization of the farms specializing in vegetable seed production we are only saying that the very low yields of some of them should be a cause of very serious concern. We ask, what can the biological value be of kidney bean seeds, for example, that are produced on the vegetable farms of the Rast and Galicea CAP's in Dolj County, Cazasu CAP in Braila County, Singureni CAP in Giurgiu County and Dabuleni IAS in Dolj County, where the yields per hectare were so low this year that not even the seeds used for them can be recovered. And such examples of low productivity can be cited in the case of all vegetable seed crops, a fact that obviously calls the quality itself of seed producing farms in question. In vegetable cultivation, more than in other agricultural sectors, we have units with valuable experience in seed production. There are some 60 farms right now that were specialized to produce seed 20 years ago, such as those at Semlac and Pecica in Arad County, at Prejmer in Brasov County, at Bailesti in Dolj County, at Studina in Olt County and at Druml Subtire in Calarasi County, the farms of the Isalnita, Bacau, Buzau and Blaj research stations, or those of the Vidra Institute, which are models of the way all vegetable seed production in Romania should be organized. But this calls for the start of organization of real seed farms in every county, according to the program approved last fall. Accordingly the practice must be completely eliminated of some county horticultural trusts (Galati, Timis, Ialorita, Bihor and Buzau counties) of organizing vegetable farms to produce seed when it is practically impossible to irrigate the respective areas. Moreover, in view of the requirement to improve the biological structure of the seeds, the production base of superpreferred and preferred seed must also be expanded on some productive units. Therefore the possibility should also be

considered of producing some of the seeds of high biological value as well as those for export on specially organized farms under the county complexes for processing and exploiting vegetable seeds. There is good experience with this that good be improved.

We have presented only a few points and considerations about the very comprehensive system for vegetable seed production, which we are calling to the attention of the specialist and managers in this sector in order to make specific suggestions intended to secure fulfillment of the tasks assigned this important agricultural sector by the party.

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CSO: 2700/33

NEED TO FULFILL EXPORT PLAN STRESSED

Responsibility of Enterprises

Bucharest ROMANIA LIBERA in Romanian 3 Oct 84 pp 1, 3

[Article by M. Radian]

[Text] In his speech at the Working Conference of the RCP Central Committee exactly 1 month ago, Nicolae Ceausescu addressed a warm appeal to the working class on behalf of general improvement of industrial activity, with special emphasis on export production and export in general. On this occasion the party secretary general said, "Firm measures must be taken to implement export production, export and cooperation in production with both the socialist countries and the developed capitalist countries. We must realize that we must make every effort so that all units will give priority to export production on the contractual terms of quality."

Three days later the Draft Directives of the 13th RCP Congress were published in the press, setting for the next 5-year plan a much more pronounced evolution of export growth than that of growth of the industrial output, namely 52-56 percent compared with 34-37 percent, which will be the growth of the industrial commodity output.

We have mentioned these two emphases because all that we are going to discuss below is covered by these two great requirements of the most urgent national importance, namely fulfillment and even overfulfillment of the export plan for 1984, and consolidation in this way of the resources for massive and continued expansion of economic relations with the rest of the world. From this viewpoint it will not be difficult to see the connection between fulfillment of the first aim and the requirements of the second one, as well as the fact that the latter necessarily depends upon the former and stems from it, and to draw all the necessary conclusions. In any event, the dialectics of foreign trade and international economic cooperation and the nature of export activity especially require more than other activities a continuity and a progressive development that must be constantly consolidated, since any lag or shortfall in any stage may affect subsequent development.

But perhaps we do not even need to invoke the argument of the future in this case, since we feel the arguments of the present alone are sufficient. What are they? The facts that in 1984 we have to implement 13.8 percent more foreign trade than last year and an even more pronounced development of export trade in the course of it. Why? So that we can have the foreign exchange needed to cover all imports of raw materials, materials and some equipment and technologies, that is the imports for production that are indispensable to its normal progress and to its output of the planned volume of goods, and so that we can acquire a foreign exchange surplus with which to further reduce the foreign debt, with all the good effects of that for Romania.

We feel those are sufficiently cogent reasons to understand the absolute priority that must be placed in all our activity upon the aim of completely fulfilling the export plan within the specified time limits and on the terms of quality agreed with the foreign partners.

Now that 9 months of 1984 are over, it can be said that the vast majority of the workers realize the national importance of this objective. Hundreds of enterprises have begun the last quarter of 1984 with the export plan fully implemented, and many of them are even exceeding it. We do not intend to list those enterprises, nor would we have space to publish them, and we shall note only that there is no field wherein we do not find dozens of units in that favorable position. The Pitesti Petrochemical Combine, the Ocna Mures CPS [Center for Design and Tooling], enterprises like the Slatina Aluminum Enterprise and the Slatina Aluminum Processing Enterprise, drugs and dyes enterprises like Bucharest Sinteza, machine building enterprises like Bucharest Turbomecanica or Bucharest Industria Tehnico-Medicala, the Tirgu Secuiesc Machine Enterprise or Fieni Steaua Electrica, and then light industry units such as Pascani Knits and Curtains, Oradea Metalica, Sibiu 13 December Leather Goods and Footwear, others making textiles, garments and furniture, and many others exceeded their export plans for the 9 months. We repeat, many enterprises are in this praiseworthy position and have good prospects of meeting their export obligations in the annual plan fully.

But it is also true and we must say that the enterprises that are behind the plan and are interfering with the general balance of foreign trade by their export failures are negligible neither in number nor in size. Need we say further that those enterprises and especially their collectives must make every effort to recoup their accumulated arrears within 3 months or even sooner and to finish the plan year with their exports completely implemented?

The profound effect of the party secretary general's appeal must be amplified everywhere. Better organization and tight control of fulfillment of obligations to date, along with recovery of arrears, are now priority requirements for all production collectives and all workers councils. We would even venture to say that they are the main means to success. We were encouraged to say so by a conversation with a manager of an enterprise in a favorable position regarding exports. Its export plan to date has been overfulfilled by 11.5 percent in convertible foreign exchange. Iulian Vilceanu, deputy director of the Bucharest Fan Enterprise said:

"Although we realize we have by no means exhausted the reserves for increased exports, nevertheless we have exceeded the plan for 9 months and have every

opportunity to exceed it for all of 1984. Our success is due to the enterprise collective's general effort and especially to good organization of export production and daily control of its implementation and delivery. The effort is based on the endeavor to supply highly technical products competitive on the world markets so that the foreign trade enterprises find our offerings up to export standards. It is also based on organization and control of export production, which is checked with special schedules and analyzed separately from the rest of the output, and priority technical-material supply is provided for it. All those who work for export know and we say they have grasped the idea of its priority, and they are trying to make the most substantial contribution they can to its implementation. Accordingly types of fans up to world standards have been assimilated, some of which we were importing just a few years ago, and today big chemical combines and cement, coke and other factories in China, India, Egypt, Pakistan, Syria and Iraq are equipped with fans, exhausts and other equipment bearing our factory's trademark. This is to say nothing of our indirect exports. Our equipment is incorporated in many locomotives exported by the 23 August Plant and Craiova Electroputere and in the big electric engines exported by DMB [Bucharest Electric Motors Enterprise]. Moreover our outside service teams, who check on activation and attainment of the planned parameters, make suggestions to improve the equipment, and their suggestions become operational programs contributing to the rapid modernization and efficiency of production."

To the question, what steps are being taken now to secure exemplary implementation of export, he replied:

"We are checking production daily now so that we can send out the last orders for this year at the beginning of December and gain a head start of a whole month on next year's export production. We have compiled a substantial portfolio of offerings that we have made available to the export houses, and we are now preparing to manufacture the first shipments of 1985."

We have encountered such initiative at many points, at Grivita Rosie, Bucharest DMUC [Machine Enterprise for Chemical Equipment], Baia Mare Garments Enterprise, Odorheiu Secuiesc Furniture Factory, Sibiu IPL [Enterprise for Wood Products] and many others, and that is the way the party secretary general has shown us. Daily control of export production so that the output will be delivered ahead of the dates specified in the contracts with foreign partners, support of the sections or production lines making export products with extra forces when needed, organization and control of the activity so that delays will be quickly recovered, quality control in keeping with the contractual provisions, and early fulfillment of the export plans for the fourth quarter and the whole year so that the January 1985 contracts will go into production in December are tasks that must become the priority of priorities in all Romanian enterprises. Let us fully realize the importance to the nation of the fulfillment of this year's export plan, in order both to secure the planned contribution of foreign exchange and to increase the number of foreign partners satisfied with Romanian goods who will multiply their imports of them in the years to come! Let us greet the 13th RCP Congress with the greatest successes we can on this most vital front.

Export Goods Must Be Finished by 15 December

Bucharest ROMANIA LIBERA in Romanian 11 Oct 84 pp 1, 3

[Article by Eng Artur Ioan]

[Text] The greatest care must be taken everywhere to secure the quality and technical level of export goods. Every enterprise must take specific measures to organize the work in order to eliminate the arrears behind the plan and the contracts. The export commissions must take firm action to check production daily and to supply the necessities to make the products for the foreign customers. All specialized personnel must be involved in solving export problems and assigned to shifts equally to lend competent technical aid.

We are returning today to a highly important and urgent problem, namely export. In the commentary a week ago (ROMANIA LIBERA No 12,416) the reasons, which we consider convincing, were recalled of a kind to encourage concerted action through understanding in its true proportions of the idea of absolute priority that is accorded to implementation of the export plan. And we shall recall those major reasons whenever needed, because they always lie between the poles of two strategic requirements of the greatest importance to Romanian society, namely complete observance of the Law of the Uniform National Plan for Romania's Socio-Economic Development and continuing expansion of foreign trade and economic cooperation with the rest of the world. But in the following we shall not discuss the aims primarily but the obligations, as they flow from the tasks of the fourth quarterly section of the export plan for this year, with strict observance of the legal provisions and the obligation to recover the arrears.

The last quarter may be quite rightly called decisive for export production because of the complicated tasks it includes (completion of products with long manufacturing cycles, recovery of arrears, securing the contracts and preparing production for the next year, prompt honoring of all contracts and orders in order to collect the sums due within this budgetary year). No further arguments are needed to demonstrate that fact. The enterprise workers and collectives know that the results of work and organization and the effects of the previous months' measures are best seen now. Progress under this heading of the plan, with which many enterprises are greeting the 13th RCP Congress, is the most graphic evidence of people's understanding of the importance of export as an integral part of the general economic activity. The news reaching the editors brings out the efforts of some collectives, some with traditions and well-known on the foreign markets, and others that are younger but have won well-deserved prestige abroad, efforts resulting in overfulfillments of tasks and encouraging additional pledges. Alongside the strong detachments of the Slatina aluminum workers, who overfulfilled their export tasks for 1 January - 1 October by 515 million lei, there is the collective of the young Craiova Production and Services Enterprise, which sent its foreign customers the last products last week that were in the economic contracts and the export plan for this year, with sure possibilities of exceeding the annual plan by 25 percent. The collective of the Pitesti Chemical Combine is honoring its first place in this year's competition with 141 million lei of above-plan output for export, and it has pledged to finish its annual export plan on the opening day of the 13th Party Congress. And now again on the same news bulletin the Focsani Metallurgical Enterprise appears,

overfulfilling its export plan for three quarters by 15 percent although its second rolling mill was just activated a year ago. We could add the Tirnaveni chemists, who are famous, and those at the Ludus Tire Factory, which is only 4-5 years old, and many other examples. Certain it is that every enterprise has export tasks and production tasks in general, proportioned according to its technical potention and the capability of its collective. That explains why self-excelling is noted and publicized, especially in export, since it is well known that the foreign market is hard to win and even harder to keep, and it can be done only by extra effort, care and concern for quality, and especially by very strict plan discipline and literal adherence to the spirit of the contract.

Therefore it is the exporters' main obligation to fulfill all the concluded contracts completely and punctually. Every enterprise's plan is law unto its collective. No "compensations" can be made at the expense of other units. Each one has a different nature, different partners and different pretentions. For instance, the praiseworthy results of the Ocna Mures chemists, who are 1 month ahead in their exports, can not compensate for the shortfalls of other collectives in Alba County, who are manufacturing something else for someone else. Only the customers of the Soda Products Combine are satisfied, the others are not and we are even liable to lose them because of delays in honoring the contracts, a situation a number of enterprises in Brasov, Arges, Botosani and other counties and even Bucharest are in. Of course such a situation, where it exists, requires immediate analysis and prompt and effective measures. A veritable "current X-ray" of the situation in every central, county and enterprise is required for this purpose.

Accordingly firm measures are necessary which, according to the directions of the higher party administration, must be channeled now in two directions:

- Immediate delivery of the output produced on the basis of firm contracts and orders which is still with suppliers for unjustified reasons. Note that the value of this undispached output is quite high.

- The entire export output contracted for must be finished (for the above-mentioned reasons) by 15 December at the latest.

Of course the second problem is more pressing and demands the greatest attention, and every day now has a different workload. Since the export production program is definitely advanced by two weeks (which appears as a novelty to those accustomed to "pull hard" even on New Year's Eve), the production schedule has to be changed so that all arrears will be recovered and the November output will be finished by 15 November, and the plan for December will be implemented from 16 November to 15 December. This makes it possible to begin preparing for next year's production everywhere in the remaining time before the end of the year. We repeat, finishing and delivering the exports on time permit transfer of the sums due to Romania's account, which will facilitate the banking operations this year both for financing the imports needed for the first part of next year and repaying some of the loans made in past years, and for creating some foreign exchange reserves.

In view of the current requirements, the above-mentioned tasks demand more intensive organizational work, from the working unit to the management of every

enterprise and industrial central, and discipline, order, and regular and exacting control. Enterprises with problems and especially arrears must organize teams and brigades of craftsmen and workers with the best qualifications (as it was indicated long ago). The export commissions must be reinforced with the most competent people on the subject, since their main task is not only to check the progress of export production daily but also to procure the proper supply. Accordingly the main efforts of the centrals in this period must be concentrated on regular supply of the enterprises with materials, parts, subassemblies, equipment and other essentials for export production.

As the reader can gather, it is a matter of specific tasks imposed not only by the advanced period we are in (We entered it in the second 10 days of October) but particularly by the fact that the plan is a letter of the law and the national interests urgently require observance of the above-mentioned deadlines. This economic demand can be met only by every collective's intensified concern for implementing export, for which purpose (in addition to the natural responsibility for the quality and technical level of the products) it becomes necessary to enlist all technical-engineering personnel, to organize the work in three shifts under the specialists' supervision (and where that is impossible, in two extended shifts, but absolutely with the technical aid of the most competent engineers and technicians), and to assign the specialists to the shifts equally. These measures are justified by the very idea expressed in the title of this article and they are based upon the advice and the task emphasized by the party secretary general in his speech at the Working Conference of the RCP Central Committee: "We must realize that we must make every effort so that all units will give priority to implementing export production on the terms of quality specified in the contracts."

All enterprises can and must follow the example of the collectives which, with patriotic responsibility and perseverance, paid due attention to this heading of the plan from the beginning of the year and are now eminently successful. The great objectives of the future are based upon the results of the present. And so exemplary fulfillment of the tasks of export production is now the most ardent homage that all workers and every enterprise collective can pay to the RCP Congress, the forum of the historic decisions that will open up new horizons of progress and civilization for Romania.

5186

CSO: 2700/31

SHORTCOMINGS IN PUBLIC SERVICES SECTOR CITED

Bucharest SCINTEIA in Romanian 2 Oct 84 pp 1, 2

[Article by Rodica Serban]

[Text] Thinking about the man who writes, who travels, who makes telephone calls. When the post office begins to...write letters. So that the telephones will cause fewer problems and 051 will answer more promptly. The quality of service over a broad front, from minor inadequacies to extensive improvements.

Without a doubt, public services constitute one of the outstanding tests of living conditions, of the standard of living, while the fact that the draft directive of the XIIIth party congress foresees a substantial increase in the volume of services in the next 5-year period--between 68 and 76 percent--is proof of the party's unflagging concern for a steady increase in the working man's quality of life.

Since it was impossible to cover all of these sectors, we have limited ourselves to those which come under the jurisdiction of the Ministry of Transport and Telecommunications.

There are railroad stations through which tens of thousands of people pass every single day. But they are not always so rushed as not to notice the existing ambiance or not to form an impression. In order to make that first impression on Romanian soil a good one, the head of the Constanta station, engineer Radu Manoliu, sought to find out what travelers think about the appearance and management of the station, about the organization of activities for the public at the ticket windows. Consequently, a questionnaire was drawn up, with questions on the information system, personnel attitudes, cleanliness, etc.

There were 261 responses. As a consequence of this test, the rotation of cashiers was reorganized, their attitude and behavior were improved, information bulletins were made more visible, etc.

4,000 Citizens in the Postal Service

Eight tons of correspondence (letters, telegrams, newspapers and other publications, 1.8 million mailings!) This is the daily volume of postal activity just in the capital. If we take into account the entire country, the number becomes even more impressive. Equally impressive is the telephone traffic, continually rising, particularly after the introduction of automated long-distance equipment. Of course, institutions and enterprises are also the beneficiaries of this broad service fan. But the largest part of the work is for the citizens. I therefore considered appropriate the public opinion poll taken by the district directorate of the post office and telecommunications in Brasov. Questionnaires were drawn up and 4,000 were sent to subscribers chosen at random from the telephone book. The "harvest" was rich: the responses received contained numerous positive evaluations, some well-founded critical observations and no fewer than 408 suggestions.

Of course, the authors of this survey were not out to make an "inventory" of problems, only to find out what they were from the customer's viewpoint so as to take more effective action to eliminate them. What, then, happened after processing the data from the Brasov survey? Right away I noted measures to correct the deficiencies. In the area of telephone service, which drew the most complaints from the citizenry, the delivery of phones from "Electromagnetica" proceeded with the greatest urgency and about 10,000 of those already in subscribers' homes were reinspected; telephone lines were installed on some 50 streets, etc. The result was encouraging: about 2,000 fewer complaints were received by O21 than during the same period last year.

As far as postal service is concerned, apart from some concrete cases that were noted and taken care of, each one separately, the principal conclusion of the survey was the following: activity must be intensified in professional improvement and education among workers who deal with the public.

Since the results of this survey, not the first at Brasov, were good, the ministry decided as a follow-up to extend the practice to the entire district.

Modernization and Automation in Support of Improved Service

Some service problems are so well-known to the citizenry that no survey is necessary to discover them. Arrival in the crowded hall of a station is sufficient. Often you can see ten travelers pressing at a single window while at one nearby the cashier is bored by a lack of clientele. At "My Baggage" there are long lines of hurried and nervous travelers. It also happens all too frequently that upon getting on the train one is "surprised" to find two or three tickets for the same seat or, another situation similarly encountered, empty compartments in a train, for which "standing room" places were sold.

From discussion with representatives of the directorate for traffic and commerce of the M. T. Tc., I jotted down some actions that have been taken

that will substantially improve the quality of service through long-term measures based on means offered by new technology: an increase in the number of travel agents in the large quarters of Bucharest, Timisoara and other cities; the introduction in 1985 of machines in stations with heavy traffic that will change money and dispense train tickets (contracts have already been let with suppliers); on the basis of consultations with specialists, the information system has been unified and an optimum height has been established for the installation of signs.

I also noted interesting concerns in the equally important sector of the post office and telephones. At present, thanks to improvements that have been made, "lost letters" represent an almost infinitesimal percentage: one in 400,000! But, although no longer lost, some letters and newspapers arrive at their destination late, thereby becoming useless. These are deficiencies that were taken into account in the process of modernizing the postal service, now in full swing. Ten transit centers were set up where correspondence is processed automatically, etc.

Millions of subscribers are connected to the automatic telephone network: 80 percent is automated while 170 localities have the benefit of an area code. Still, demands change and increase. In the period from 1986-1990 work is planned to extend the telephone net into new localities, quarters and economic organizations. In order to facilitate telephone calls to 030 in Bucharest, starting in 1985 the information processing system will be automated. Thanks to a device of Romanian design and manufacture, service offered on 031 will be improved: it will be possible to satisfy all demands for telephone calls.

Other projects are in various stages of development as a result of those eight studies undertaken by the ministry in this area. Still, as our interlocutors recognize, no study--no matter how detailed--can replace direct contact with the citizenry, the immediate awareness of his opinions and desires.

9794

CSO: 2700/30

ECONOMIST DISCUSSES EFFECTS OF DELAY IN STABILIZATION PROGRAM

Belgrade EKONOMSKA POLITIKA in Serbo-Croatian 22 Oct 84 pp 18-22

[Interview with Dr Zoran Pjanic by EKONOMSKA POLITIKA: "The Boundary of the System's Preservation"]

[Text] It would be catastrophic to draw from the fact that inflation has been tougher to crack than it seemed to many people the conclusion that it should be suppressed over a very long period of time. It would be especially wrong, said our interviewee--Dr Zoran Pjanic, professor--if the fight against inflation began by giving up on the realistic rate of exchange of the dinar, real interest rates and the free formation of prices, not only because these are indispensable instruments envisaged by the stabilization program but above all because our inflation is systematic in nature, and not a single generator in the system has been touched upon as yet, Pjanic said in a conversation we are offering in a freely edited version.

EKONOMSKA POLITIKA: There are more and more controversies about the stabilization program. What would be the most important move right now from that standpoint?

Pjanic: The main thing at this moment is to arrive at a precise answer to the question: What state is our economy in? After all, we encounter several differing assessments.

One has been laid on the public by the leading people in the Federal Executive Council. Namely, to the effect that our results have been good in the domain of industrial output, with a growth slightly greater than 5 percent; to the effect that agricultural production is outstanding; that the harvest of foreign exchange from tourism is better than we anticipated; that we have managed to meet all our obligations abroad with the appropriate rescheduling, whereby we are again gaining the confidence of foreign creditors; and to the effect that we have also carried out certain undertakings on the scale of the system as called for in the stabilization program. Consequently, that overall assessment ought to read--the general situation is relatively good. The conclusion is drawn from this that the favorable course of events ought not to be disturbed by any sort of new undertakings. This is in essence the conservative approach aimed at retaining the present relations in our economy. On this occasion I am speaking exclusively about material relations, about price

disparities, about the monopoly in the disposition of foreign exchange which exists both within branches of the economy and also within regions, about the system of distribution which favors certain individuals, certain economic organizations, certain branches, and indeed even certain entire regions, and so on.

Others emphasize the negative elements of the present moment, which are obvious. There has been a drop in the standard of living, the material base of the economy is diminishing because of interest and other similar obligations, there is a high degree of polarization in society, and the phenomenon of capitalization has even emerged, the policy of the realistic rate of exchange is a form of additional exploitation of our country by the advanced countries, and so on. On that basis the spokesmen of this approach call for debate to be initiated on the essential programs of the stabilization program out of a belief that its economic orientation is mainly to blame for those bad consequences.

It seems to me that the answer to the question of what position the economy finds itself in is somewhat more complicated. There is no doubt that it does have certain positive elements: for example, it is good that industrial production has made progress, but at the same time we are overlooking here that the first half of last year was markedly poor. And then we emphasize the income from tourism, which according to all domestic data is reaching \$1 billion, while all the publications abroad say that tourists in our country spent \$2 billion. Where is the other billion? Which means that the resources offered by that branch are still not being collected adequately or efficiently.

However, the essential thing is this: a very high price has been paid for these relative successes.

It is precisely all these points or consequences referred to by the second current, which is of a general fault-finding bent. They are above all the drop in real personal income, accompanied by polarization in society and with a rather great dissatisfaction that is not only economic in nature, but also political. Although I did not share something which I myself have called the "sanguine optimism" of the FEC [Federal Executive Council] at the end of 1982--to the effect that we need only maintain external liquidity at more or less the necessary level, that our country will get very favorable terms and conditions for rescheduling because of its political reputation in the Third World, and that good conditions on the world market were just over the horizon, and that we needed to survive only the fall and winter of that year and the beginning of the next year for all the difficulties to be overcome--it must be said that we did anticipate considerably faster and better results from applying the stabilization policy.

EKONOMSKA POLITIKA: What is the main cause?

Pjanic: The causes are manifold. As for the stabilization policy, there are three classical time components in every crisis that should be recalled. The first is the time from the occurrence of the phenomenon to the moment when the public becomes aware that something is not what it should be in the economy.

The second period lasts from that moment until the right decision is made, and the third lasts from the time when the decision is made until the first benefits of its implementation. We have been late in all three of those periods. For a long time we were unable to agree about the characteristics of the present moment. The phrase used most frequently was "problematical situation," and those who spoke about an economic crisis were referred to as radically oriented economists. Today there is talk not only of an economic crisis, but even of a political, ideological and moral crisis, and indeed even of a crisis of society as a whole.

And then there have been differing interpretations both of the features of the situation and also the causes. This has usually been attributed to the behavior of individuals, economic organizations or individual groupings, but in its broadest range it has reached even the bad economic policy of the republics or of the Federation. But the system has remained untouched and outside of the causes of the crisis that have been enumerated. The very fact that the economic stabilization program was drafted 20 months ago is indicative of how difficult it has been to break down the resistance of those who wanted to preserve untouched a system that was founded on the commitments contained in the constitution, but operationalized in such a way that it contains quite a few elements of Utopia and voluntarism. When the stabilization program was finally adopted, postponement began of what is essentially the real period, that third one in which the effects are to be anticipated. It has not yet begun, since only certain separate instruments in the stabilization program have been applied, such as coming closer to a real rate of interest, a realistic rate of exchange, partial liberation of prices and a few amendments of enactments embodying the system, but not essential in nature. By no means should we forget the fact that according to the first conception all the changes in the system were to be made during the summer of 1983, by the beginning of October at the latest. That time frame was later moved to the end of the year, and during the year we have had occasion to hear some very distinguished participants in the work of the Commission for Preparation of the Stabilization Program who equated the first phase with bringing inflation within permissible limits. Since inflation has proved to be much tougher than some people conceived, and since it is estimated that we will need the period up to the end of this decade for that, that leads to stretching out the first phase for a few more years.

EKONOMSKA POLITIKA: Does that mean that we are still at the beginning of resolving the crisis?

Pjanic: It is very difficult to say where we are now if we do not even have those three basic balances--properly worked out and adopted by everyone--without which it is impossible to put a development strategy in place.

First, even to this day we do not know the pattern of use of the social product. This was an omission even in the drafting of the Anti-Inflation Program. According to the principal figures in that document, that is, reduction of inflation from the 30 percent at that time to 10 percent was anticipated, for one thing by reducing the share of government and social service expenditure and investments in the social product and by bringing them into relations that

are suitable to a country with an industrial civilization. Those two sectors ought to make 15 percent of the social product available, and since it was assumed that personal consumption would hold to the same relative limits, the next question was, of course, where those funds would be committed. The answer was not given in the Anti-Inflation Program, although some people had been pointing to this problem. The resources were so great that they exceeded the volume of our payments abroad. On top of that, since this is done in the respective currencies, this called for an incredible growth of exports. This confusion was compounded by our principal institutions in the field of information, which were giving altogether opposite and confusing figures. That is, we know that an appreciable drop in investments occurred, so that it is already a real question of whether the present level is adequate for us to keep up with the process of accelerated development of technology in the leading world economies; we know that the share of government and social service expenditure has been reduced and that total personal consumption has also dropped 2-3 percentage points, which has involved an extensive redistribution within the population. The only explanation is that inventories are being created, that is, that we are not recording a portion of domestic production which, perhaps because of the actual situation on the market or for speculative reasons, lies outside the real economic flows. So, without all of that we cannot set up a good policy governing any form of expenditure, not even the payment of our debts abroad. The general slogan that we need to bring expenditure within realistic limits is an accurate one, but unless it is fully stated in quantitative terms, it cannot be an instruction to govern economic action.

The second main balance which is lacking has to do with the immense indebtedness of our economy. There is talk of the sum of 4,000 billion dinars, more than half of which originates in negative differences in rates of exchange. This is nothing else but an expression in value terms of all our mistakes, voluntarism and Utopianism from the period from 1976-1977 to 1982-1983. This is the price which future generations have to pay. We have to break down that sum into its parts and draw up a program so that this burden takes on other dimensions: wherever claims can be canceled out by clearing, to do so, but to distribute what remains over age groups so that room is left to the economy for expansion. Up to now we have been merely carrying that problem over from year to year, and it has been growing in quantitative terms in the process. Right now it is being said that the FEC has a proposal for dealing with the deficit in the area of differences in rates of exchange from past years. This is good, but this is not the primary problem, which is how to prevent new differences in rates of exchange from occurring. When we have hit upon a fundamental answer to that, then the inherited aspect of the debt will take on its true dimensions.

EKONOMSKA POLITIKA: You have mentioned the year 1977 as the beginning of many problems. Did you have in mind the laws embodying the system which were adopted at that time and in the years that followed?

Pjanic: I was referring precisely to those laws embodying the system. I am referring to the Law on Associated Labor, which, by comparison with the SFRY Constitution, moved the center of gravity from the work organization toward

the basic organization of associated labor. After all, in a correct reading of the constitution, it speaks about a part of a work organization in which a technological entity can be ascertained and where the work of that part of the collective can be stated in value terms in internal relations or in relations on the market, then that portion of the workers has the right and obligation, the constitution emphasizes that this is an obligation, to organize itself as a basic organization of associated labor so that resources and income are not alienated from the workers themselves. But it also talks about the part of the work organization. Accordingly, if the constitution is correctly interpreted, the work organization is a legal and economic entity.

The Law on Associated Labor took the basic organization of associated labor as its point of departure and allowed it to become a place shut off, eliminating the normal connections which are instituted within a work organization. Which is why, as you know, we have very few true work organizations and especially true complex organizations of associated labor representing our self-management response to the challenge of the concentration of production and the optimum use of resources. Further, I am referring to the law on planning, which--by virtue of the obligation that everyone plans at the same time, that all self-managing entities among which there exists lasting business collaboration necessarily conclude accords on the bases of the plan--posed demands which were impossible even in theoretical terms. The entire conception of total planning was devised in the form of a pyramid, from the plans of the OOUR's [basic organization of associated labor], all this on the basis of accords through the plans of work organizations and complex organizations, from the plans of even local communities to the opstinas, the republics and the provinces. Finally, there comes the plan of the Federation as the apex of the pyramid that rests upon all of that. When we also add to that the principle of so-called continuous planning, then this means that the entire procedure is to be repeated if there should be a change in the conditions for the conduct of economic activity. What that means is that we would have to plan exclusively and that no one would have time to produce.

I am referring, to go on, to the Law on Prices, which has turned prices into a consensus category and which had the misfortune of referring to those six criteria for the setting of prices which have actually turned into criteria for social price controls. Since in actual life these criteria have often had differing directions in their movement, business organizations have had a strong implement for exerting pressure on the [price] communities and have thereby contributed to a strengthening of the inflationary trend.

I am referring to the bases of the agreement for distribution of income, in which the income per standard worker is taken as the principal criterion. This is nothing other than the criterion of simple commodity production, that is, the time in which the craftsman had a bit of capital, a few tools and some raw materials and when the most important question for him was whether the income he realized was appropriate to the quality and quantity of the work he put in. In a modern economy we are dealing not only with current, live labor, but even a predominant role is played by equipment, resources, physical elements. They must find their appropriate place in the system of distribution.

I am referring to the foreign exchange law, which of all those mentioned has probably caused the greatest harm, since it led to the regionalization and fetishization of foreign exchange. To go back to differences in rates of exchange, it is worth mentioning that they are the result of the foreign exchange system that is in place, and that the one adopted in 1977, since all the subsequent amendments and supplements have left the essential issues to one side. In the first phase the stabilization program envisaged the possibility of business organizations retaining a portion of foreign exchange which they realize—but in the amount of their needs for simple reproduction. The possibility of their pooling was also opened up, although even today it is not clear to me what they could pool if the right to foreign exchange was limited to needs in simple reproduction. That additional sentence about the pooling possibility could have taken on some meaning only as a means of retaining the old system in the phase of operationalization. Recently the ideas have also revived of creating two foreign exchange markets: one would be the ordinary one and would operate through the banking mechanism, while the other would amount to legalized buying and selling of foreign currencies among business organizations. This idea presupposes, of course, the absolute removal of any sort of prohibition on exports and absolutely free setting of all prices. Otherwise, we would keep in place the monopoly of that portion of the economy which possesses foreign exchange.

The great resistance to implementing the stabilization program is based to a considerable extent on the benefits that arise out of the existing system of economic law. We have huge price disparities, so that certain industries, and thereby also regions, are siphoning off income at the expense of others. The same thing is true of foreign exchange. Many are trying to preserve the present foreign exchange system, since it affords them a markedly favorable position on the Yugoslav market. It is often thought that "scalping" with foreign exchange is the main reason, although I personally think that the essential thing is that such a region can import enough energy and raw materials to maintain full employment and complete the entire cycle within its own limits.

EKONOMSKA POLITIKA: Would that be an advantage for that region over the long run?

Pjanic: This is the very picture of isolation even in the short run. There are cases in Europe when small regions have very successful economic results. However, it should not be forgotten that they are all in the end part of broader communities and do business according to rules of behavior which they have in common. An isolated region cannot withstand the competition imposed by present-day technology. Even back at the outset of this century, when the theory of foreign trade was put on Marxist foundations by such authors as Hilferding and Rosa Luxemburg, it was ascertained that the smaller an economic region, the greater interest it had in the world division of labor in order to specialize and thereby utilize its resources effectively. When the direction of enclosure is taken, here I am thinking of Yugoslavia, the cost of production higher than the foreign cost is made up for through the sale of foreign currencies within the country at a rate two or three times greater than the official rate. I think we should look reality in the eye once and for all and see that very large real interests are hidden behind these frequently enticing

phrases, which are supposedly appropriate to associated labor and our system of self-management.

EKONOMSKA POLITIKA: We changed the subject, and you did not finish about the economic balances which are lacking.

Pjanic: The third basic balance is the strategy for paying back our debts abroad. The question is how to get Yugoslavia into a position which affords it the necessary rate of development and would get the threatened standard of living back on a normal track, but this time on sound economic foundations. Here we must clear up the question of whether we want to undertake to eliminate short-term credit and a certain reduction of medium-term credits, which appears to be the principal alternative, or will we rather undertake a real burdening of current economic flows, though with a somewhat slower pace in reducing the share of those payments in our total inflow of foreign exchange. This question needs to be carefully weighed; that is, the future needs to be forecast astutely and clear prospects created up to at least the year 1990, and indeed even to the end of this century. We dare not jeopardize the commitments adopted by the principal political bodies of our country, but a public debate would only help in examining all the options.

Without those three balances, then, we cannot undertake to draft a serious medium-term plan. Today there is a great deal of talk about sophisticated technology, about computerization and the spread of the information industry in the world, about microprocessors and robotics. We must have a hand in that, but I am afraid that this is largely a matter of fashion in our country. I favor having firm criteria introduced in the conduct of economic affairs, with all the current consequences, all the way to the closing down of the relevant business organizations, but also involving responsibility on the part of those who have made the wrong investment decisions. After all, business organizations in our country do not make decisions on the essential things; their position is anticipated by outside decisions, but they are now taking the consequences instead of those who brought this about.

EKONOMSKA POLITIKA: Probably the main thing for the future is to prevent such decisions from being made outside the economy.

Pjanic: Certainly, and it is precisely for that reason that I propose the introduction of firm criteria so that no futurologists will impose on us a conception of development which would not utilize anything of those advantages which Yugoslavia now has. We must, of course, keep pace with the world wherever possible, that is, with what is called high tech, but it should not be forgotten that even a country like America never makes a division so that computers, automation and robotics are on one side and the traditional industries on the other. Even in the steel industry and in the textile industry there are segments which are the vehicles of high tech, as indeed there are in many other branches of industry.

EKONOMSKA POLITIKA: What are those firm economic conditions?

Pjanic: I am thinking above all of the realistic economic criteria contained in the stabilization program. Some quantities must be parameters so that we can realistically measure the size of our input and the size of our output. This also presupposes realistic depreciation and a realistic rate of interest, and also the rate of accumulation be included along with personal incomes as the criterion of business performance, that we fight for a real rate of foreign exchange (but not also for this mindless depression of the value of the dinar, since what we have now is nothing other than the direct pouring of income into those branches which figure as exporters). Last year's depreciation of the dinar is a consequence and also a symptom of the situation in Yugoslavia: we cannot agree on a firm and selective policy in the credit financing of exports of equipment and the like. That drives down the rate of foreign exchange which makes every export transaction profitable.

The parcelization of the economy and of politics is what stands in the way of the stabilization program, since it treats Yugoslavia as a single economic region with a unified market. And second, the stabilization program essentially seeks elimination of the predominance of politics we have had up to now and the development of the economy according to its own laws. No one says that that is any kind of system of free competition of the 19th century type; in it the government has its place with its economic policy and also in development planning, since business organizations in their activity need to be guided in the manner most expedient to society. But those who today dispose of the resources of the economy through the banking mechanism or the funds of communities of interest have a hard time renouncing that. A tie-up has been created between organizations of associated labor and the leadership in the opstina. All the weak business organizations are interested in relations with the opstina, that is, in surviving somehow through opstina solidarity funds. On the other hand the opstinas are motivated to preserve the present fragmented situation, since it is easier for them to hold onto power that way. Our tax system and other segments of the system and policy contribute to this.

EKONOMSKA POLITIKA: If partial interests are at the basis of the resistance to implementation of the stabilization program, how are the conditions to be created so that such interests are fruitful?

Pjanic: As soon as you ask about the existence of partial interests, then they need to be differentiated. There is the interest of the individual, for example, to get a job and to realize adequate reward for the quantity and quality of the work he has put in through a personal income and other material personal rights. From this follows the decision of whether to remain in that work collective or to leave it. Then there is the interest of the collective, which is striving to maximize its position, that is, to realize an ever larger income. Then there is the commodity economy with the market mechanism as the framework in which these differing interests are manifested. The commodity economy is contradictory and only in this way can it be a mechanism for restoring equilibrium. Right from the outset, as soon as every participant figures as a seller and buyer, there is a contradictory situation, and if it weren't, there would be no balancing of the economy through supply and demand, through all those innumerable mutual relations between producers and consumers.

We seem not to want to understand that entire relationship of supply and demand as a large trimming mechanism operating through prices. We do not wish to understand that the credit mechanism is indispensable to us. That is, development is not possible without amassing uncommitted and available resources and placing them where the best benefits are anticipated. The realistic rate of interest is established through the supply of and demand for available money resources, and it is also a balancing force. If we had such quantities as that, we would not have any need whatsoever for foreign exchange accounts of individuals. People hold on to their foreign exchange because the rate of interest on dinar savings, until recently particularly, did not guarantee that the value of what was put in the bank would be preserved. Now there is a great outcry about interest rates and about how one can get rich that way. But how can one get rich if the rate of interest is still lower than the rate of inflation?

I am not idealizing the role of the market. Its limited effect is utterly clear to me. The market has to be complemented by an economic policy wherever it fails. But the market is the basis, and without it we do not have the basic real quantities, since planning is not done only in technical expressions, but above all in economic expressions. I wish to add that there is also room for the republics and provinces in all of this. No one is denying that they have formed a union in Yugoslavia on the basis of differing past histories, a differing level of development and indeed even a differing level of civilization. Various preferences in production and consumption follow from that, and that has to be respected. Which is why the republics and provinces also have a place in establishing the general conditions for the conduct of economic activity and particularly in development planning.

EKONOMSKA POLITIKA: It follows that the system we have had up to now has created many more opponents to normal relations than it first appears.

Pjanic: There are quite a few opponents, but they do not all have the same strength. At this moment the most dangerous is republic particularism, since it has a large political force behind it. In our system of unanimity, the possibility of a blockade is more than strong. However, there are also strong currents in society, currents which are seeking changes. When we take into account that a large portion of our population is already at the subsistence level, and that primarily the portion which lives on its work and on which self-management socialism is based, there can no longer be any toleration of the trend to preserve the system at any cost. That is an indisputable fact.

I am thinking here of the danger of excessively high inflation. When prices were liberalized, one of the vice chairmen of the FEC said that there was no fear of a high swelling of prices for two reasons. The first was that the exhausted purchasing power of the population would be a barrier to price rises in the manufacturing industries, and the second was that those who raise prices above an acceptable level would be penalized in that credits for working capital would be taken away from them. There is no basis for either of those reasons. As for the first, there is the danger of our falling into stagnation. We forget that there is an overall linkage in the economy, and that if sales lag within the country, then the only way out is to export, but

at prices below world prices. Here we are already encountering a serious barrier, that is, the increasingly frequent objections to the effect that we are selling at dumping prices. Even if we were to omit that, that kind of exporting almost for a song, someone would still have to support that additional burden. I think that our population cannot accept any new burden. That is, every disturbance in one branch or another is automatically generated to the entire economy. Unless we undertake something serious, we will have a continuation of recessions so that these few percentage points of growth in output will be soaked up very quickly.

And that second point, which business organizations are afraid of, operates even comically in my opinion. After all, it was said in that same statement that a freeze could not hold back prices even if there were three times as many market inspectors. The freezing of prices is a much simpler operation than what is being proposed as pressure through the banking mechanism. When prices are frozen, it is a simple matter to ascertain whether a violation has occurred. If we wanted to be effective, we could easily have done so. But I think that the good will was not there, or there was not enough of it. If we were unable to do what is being done sometimes in the world, to freeze prices and keep them strictly controlled in order to change something in that time interval so that after the price thaw everything will follow the channel which society desires, it is clear that nothing good can realistically be anticipated from these hybrid and, incidentally, very complicated decisions either.

EKONOMSKA POLITIKA: Since you are against not only the hybrid solutions, but also the good ones when they are taken in isolation, which are those essential moves which should be made simultaneously?

Pjanic: Basically we are going back to the first question, to the fact that we have not carried out the first phase of the stabilization program. Everything that has taken place in the meantime affords sufficient basis for the conclusion that the bad results are absolutely the consequence of not having undertaken implementation of the stabilization program simultaneously and resolutely, since that system called for changes in the solutions embodying the system, but also for changes in real quantities. As for the laws embodying the system, that one about foreign exchange, for example, two laws have been adopted with mild corrections that have not eliminated the two main shortcomings, which are the regionalization of foreign exchange and the circulation of foreign exchange between business entities at the rate of exchange on the black market. What is more, we have strengthened the position of the republic with the law on concentric responsibility in repayment of loans. The result is that all foreign exchange is nailed down to a particular region.

To go further, there is quite a bit of discussion of the law on establishment of gross income. Great insistence that income in foreign exchange be eliminated, that is, that foreign exchange not sold to banks could not become part of gross income, is a good solution in principle. But in isolation it would not yield the anticipated result, since who is preventing anyone from selling foreign exchange today and then the next day the bank releases it to him? This would defeat the whole idea. Accordingly, that good solution would be possible only with essential changes in the foreign exchange system. But the

changes in the foreign exchange system must be based on a good law on prices, but also on a prior price reform, since the disparities of domestic and world prices are growing all the time. Given such prices, a new wave of inflation is going to hit us since our inflation is primarily of the cost type.

EKONOMSKA POLITIKA: The dilemma was whether to eliminate the disparities in a single stroke or to leave that to be regulated gradually on the market.

Pjanic: The problem area of prices was unquestionably at the center of attention when the liberalization measures were announced. However, people overlooked that the economic stabilization program insisted strongly on introducing world price criteria. The time of frozen prices has passed, yet nothing was done, so that that element has not been built into our price relations. I am not for copying foreign prices, but those prices are reality. We both buy and sell at those prices. The greater the differences between our own and foreign prices, the harder it is to make effective use of the policy of the realistic rate of foreign exchange. After all, in order to increase exports, that is, if we are to make even those producers whose prices are far higher than world prices competitive, we have to depress the dinar a very great deal. So, the realistic rate of exchange is not effective without a corresponding price policy and, of course, if the foreign exchange market is not functioning. Producers are at present in an unequal position, that is, they are dependent upon whether their republic has greater or lesser problems with foreign exchange. From the standpoint of Yugoslavia as a whole the most optimum thing is to make it possible for foreign exchange to circulate on a market organized through the banks. But we are not doing that, but are thinking up a number of additional measures in order to make up for the lack of foreign exchange or are driving business organizations to export things cheap in order to maintain production.

EKONOMSKA POLITIKA: Do you feel that we have to enter the coming year with the first phase of the stabilization program altogether accomplished?

Pjanic: Of course, if we desire good results. However, if we want the present situation to continue, a situation fraught with the danger of degenerating into serious social unrest, then we can go on playing with the economic system and economic policy.

EKONOMSKA POLITIKA: Was the division of the program into phases justified from the technical standpoint, or was this only an expression of the lack of political determination to carry out the program?

Pjanic: There were serious disagreements over many issues. But certain agreements were also made as to how that program should be set up from the standpoint of the system and also from the standpoint of material social development. The greatest number of differences concerned the foreign exchange system. The subgroup which did the work on that field, as indeed was the entire working group, was fully in favor of the conception of the foreign exchange market and a firm course toward dinar convertibility. By contrast with that, a number of members of the commission drafted their own concept, which was nothing other than keeping the system which is based on foreign exchange income--accompanied by the explanation that that kind of income is derived

from the constitution and that circulation of foreign exchange between business organizations constitutes precisely that foreign exchange market, that market organized in conformity with the principles of self-management, as it was put. Thus big problems came about, and that led to the first use of the expression "transitional phase." That is, creation of the foreign exchange market in the banking mechanism and leading the dinar toward convertibility were adopted as our principal aim. But it was pointed out that the economy has been accustomed to relations in which foreign exchange income is one of the basic components. On that basis, so that we would not cause major disruptions, a quite short period was envisaged in which certain rights of those who realized foreign exchange would be recognized. But only in the amount of their need for simple reproduction. Later, when the final portion of the stabilization program was adopted, the expression "first phase" emerged as the period in which the changes in the system, that is, the business environment in 1984, would be adopted.

EKONOMSKA POLITIKA: Now we hear even the argument that disturbances are much more profound than it seemed, so that the stabilization program should be carried out over a longer period of time.

Pjanic: That argument is based on the very high rate of inflation. If we make a comparison with the European countries, we see that we are competing with Iceland for the worst place in Europe in that respect. Last year Iceland had a slightly higher rate of inflation than we did, over 60 percent. However, this year, to be sure with a rather large 18-percent drop in the standard of living, they have reduced the rate of inflation to 20 percent. Over the past 3 years we have already had a drop of some 15 percent in average personal incomes, and another 10 percent this year. This is an adverse effect, at least as far as the working people are concerned, equal to what was done in Iceland. But it is not as though we reduced inflation; rather we have kept it at the same high level, and we have yet to see what will happen up to the end of the year. That is, we have not done what is indispensable to suppress inflation. After all, when we say that this is cost inflation, that is the same as saying that inflation is brought about by institutional elements. At least that is the class economic theory puts it in. I assert that lateness in the changes to the system and preservation of the possibility of falling even further into illiquid operations, into a growth of negative differences in rates of exchange, that is, everything that makes up that 4,000 billion dinars of domestic debt--that is nothing other than artificially created purchasing power. There is no doubt that this is systemic inflation.

EKONOMSKA POLITIKA: Might we sum up the conversation with two assessments: that we have to undertake the entire reform without delay, and second, that the foot dragging with the reform so far has occurred primarily because of political unwillingness?

Pjanic: The first observation is completely accurate, but the second needs a supplement. That is, the privileged position which certain business organizations, branches and regions have takes the form of a political demand for re-assessment of certain solutions of an essential nature in the stabilization program. Which means that supposedly there is not full agreement on all the

main elements of the program, so that this has to be reexamined. In essence this is also a postponement of the reform. I would also add a third conclusion: that this postponement has brought about the situation in which we find ourselves. Every extension can result only in its deterioration--and that at all points, not only in the field of economics.

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DATA ON PATENTS, INVENTIONS, 1973-1983

Belgrade EKONOMSKA POLITIKA in Serbo-Croatian 15 Oct 84 pp 24-25

[Unsigned article: "What Regulations Can Do"]

[Text] In OOURs [Basic Organizations of Associated Labor], there will be a separate statement of the portion of the income that appeared through innovations, increases in efficiency, and other forms of creative work, and the special compensations paid to workers on this basis will also be settled from [total] income, and not from net income, or the portion that is distributed for the personal incomes of all the workers. Furthermore, in the future the mandatory indicators for planning -- from OOURs to the sociopolitical communities -- will include the number of workers involved in innovation, the number of scientific-research workers involved in innovation, the number of patents, innovations, and rationalizations implemented, domestic licenses, income earned through innovations and the part of the income that is invested in the development of new technology, especially domestic technology.

These are the changes and additions that have just been included (or are being included) in the law on the establishment and distribution of total receipts and income, along with the Draft Social Agreement on joint principles and measures for the self-managing arrangement of relations in the acquisition and distribution of income in the SFRY, as well as the decree on the mandatory uniform methodology and the minimum mandatory indicators necessary for the preparation, adoption and fulfillment of the plans of self-managing organizations and communities and the plans of the DPZ [sociopolitical communities].

Judging by the current activities in the assemblies and sociopolitical forums, one should expect the above-mentioned part of the income, as well as personal incomes or compensations to individuals for innovations, to be exempted completely from taxation.

Based on this, one could say that creativity is in full swing in Yugoslavia, since relations and operational problems in practice are now being given shape and put in order by regulations. We in Yugoslavia are still far from that point however. Ten years after the declaration of the year of technological innovations, and almost as

many since the adoption of the Social Agreement on Stimulating and Enhancing Creativity in Yugoslavia, today one can speak only of initial results, and -- instead of a description of creativity in terms of the percentage of its contribution to income, i.e. the income of OOURs or the social product -- individual examples are shown at several firms.

Scope of Action and Campaign

During all these years, the encouragement of creativity has in fact been primarily a volunteer job. There has still been a minimum of voluntarism in the work of the Trade Union, the Socialist Alliance, the highest organs of the republics and provinces and the federation, and also the other sociopolitical organizations -- all of which together were obligated by the Social Agreement to create a "general favorable climate" and to create the initial conditions for the fulfillment of a process of more widespread inventiveness at scientific institutes and faculties, but primarily in associated labor, particularly in the economy. But it was precisely there, in the economy, that creativity was left to free will and the arbitrary decisions and convictions of individuals -- in management and self-management organs, in creative and "ordinary" jobs.

The report from the Federal Coordinating Committee for Creativity (representatives of all the signers of the Social Agreement) on the implementation of the Social Agreement during the period 1980-1983 says that the key reason for the negative situation is the low level of workers motivation for more creative work; that the consequences of this are a small number of initiatives and proposals for the improvement of technology, and a small number of inventors; and that the above-average results achieved through the inventiveness of rare individuals and work crews are usually underestimated or undervalued.

In order to change this, an "invention movement" has been initiated in Yugoslavia through the mobilization of the trade union membership production-work competitions, the giving of social recognition and monetary awards in the trade union, the organization of numerous consultations and conferences, the establishment of invention sciences at firms...A "Day of Yugoslav Innovators" has been established, exhibitions of innovations have been organized, "innovations for stabilization" and "in every organization -- innovations" campaigns have initiated... The trade union organizations are responsible for activities concerning the adoption of regulations on encouraging creativity in OOURs, and the trade union leaderships in the republics and provinces are responsible for social consultation and for reaching self-management agreements on the development of creativity.

There is no evidence that is even close to being comprehensive and reliable concerning the number of innovations and their results in associated labor, and thus it is not even possible to obtain an assessment of the success of this kind of activity on the part of the trade union

and the other participants in the Social Agreement. There are only prominent examples from individual firms and -- the assessment of the Coordinating Committee that "some progress" has been made in the development of creative work. The examples show that what anyone could have expected -- that the application of a useful innovation can bring a great profit (or savings), replace expensive imports, and even turn around the unsuccessful operation of a firm.

The reports that came to the Coordinating Committee from the individual republics and provinces likewise indicate progress, but with few analytical and comparative numerical data. At a meeting of this committee, it was stated, for example, that during this period the proportion of innovators in the total workforce in Bosnia-Herzegovina was doubled, from 0.2 to 0.4 percent. These ratios and results are approximately the average for the entire country. But everywhere this is mostly a question of questionnaires from a few firms, or partial reports, and so it is not possible to gain a clearer picture of the results. More serious evidence has yet to be provided and ensured by changes in individual legal and other documents -- which were discussed at the beginning.

From 1981 to 1983, the Federal Institute for Patents collected newspaper clippings and compiled a set of 127 examples of applications of innovations and rationalizations at individual firms, citing the types of innovations, the amount saved, and the material recognition given to the originators.

The most visible result in the promotion of creativity in Yugoslavia is the "general favorable climate" achieved regarding the acknowledgment and affirmation of invention as a fundamental potential factor in economic development. But, as stated by the chairman of the Coordinating Committee, Rade Galeb, after 10 years of work on this there is no longer much sense in continuing to advocate a "general climate"; instead, one should now insist on the creation of a general system incorporating creativity and treating it as a high-quality business activity. The committee will send a summary of the above-mentioned report and proposed measures for discussion to the Federal Council of the SFRY Assembly, from which complete support is expected. In particular, the assembly's positions are expected to contribute to the further incorporation of incentive conditions for creativity into laws, regulations, resolutions, and other documents pertaining to development policy and economic policy.

It can be seen from everything stated that activities associated with the encouragement of innovative work are coming "from below" or "from the side" (the same thing), and finally, have mostly had little final success in resolving the main task that was set -- having creativity make a more extensive penetration into organizations of associated labor and into the economy. An unavoidable question immediately presents itself -- what kind of economy is it that a trade union has to persuade to develop the creativity of workers and thus increase its income? This

is because today creative work and technological innovations constitute the predominant portion in the structure of the [social] product and income of industrially developed countries, and in the world with which we do business and we trade, inventiveness is not attained by resolutions, but is instead a condition for development, and consequently, for the practical survival of any businessman. In Japan, for instance, before 1975, 20 to 30 percent of the economic growth was derived from innovation processes, and after 1975, more than 65 percent.

Scope of Economic Coercion

There is no doubt that invention, from the most trivial improvements in the operation of one machine to significant patents, is a genuine business activity, and it is the highest-quality form of business. The economy which deprives itself of such sources of income would have either great obstacles or an abundance of other possibilities for existence. We also have obstacles, but until recently there were possibilities for working and doing business differently. In the years of the post-war reconstruction of the country, we remember the audible social recognition, the emphasis on and the affirmation of innovators. Their photographs, however, slowly vanished from the pages of newspapers, and the country set off along another path -- through larger heaps in industrial development, and the purchase of foreign technology and equipment (with foreign innovations) for large-scale economic capacity. Such a development commitment brought both a corresponding investment policy, and also the economic education of an entire swarm of businessmen. Machines, production programs and procedures, raw materials, and semifinished products were purchased abroad -- often for abandoned production and along with a multitude of restrictive conditions from the foreign partners. For the development of our own creativity, there was little opportunity, time, or money. Development services in firms dealt mostly with imports and negotiations with foreign firms.

This was a general state policy, supported by international agreements, bank funds, tariff and tax exemptions... Under such conditions, economic organizations really did not even have to develop their own technology or their own creative work, and so did not set aside money for a larger involvement by science and scientific personnel and institutes. It was also more convenient to make agreements and business deals with opstina agencies and banks, to incur debts, to travel abroad, and to raise the prices of products, than to use scarce funds to build up our own development personnel, to resolve conflicts over how innovations should be rewarded, and to replace un inventive managers and administrators.

With the growing foreign bills and indebtedness that have come upon us, the time has also come in Yugoslavia when it will have to change from an extensive and spontaneous economic development to more intensive economizing and to a much higher quality of business activity. The potential forces for creativity in our country are not open to question

nor are the needs (nor the prospects) for us to increase of this basis the wealth of firms, social communities, and individuals. Under the influence of economic forces, these qualitative factors will have to be expressed more and more strongly. In the Long-Term Program for Economic Stabilization, among the basic goals of the strategy for the technological development of Yugoslavia, the constant development of innovations and creativity is put in first place.

Today, when the total effects of creative work in the economy of the country are so small that they cannot even be measured, the question is what sense there is in having tax exemptions and other external recognitions for inventive work. And when such work produces significant economic income, there will not be a problem in compensation or in the working and social recognition of creativity. After all, examples of firms which in these economically difficult years pulled themselves out of poverty precisely due to the inventive work of their workers, are and will be an instructive example for the many who -- under a foreign license -- are sinking deeper and deeper in losses.

Summary of Applications from Inventors Submitted from 1979 to 1983

Socialist Republic	Individuals	OURs	Institutes	Total
Bosnia-Hercegovina	439	44	1	484
Montenegro	81	39	--	120
Croatia	1,373	255	16	1,644
Macedonia	263	46	--	309
Slovenia	732	312	61	1,105
Serbia	2,902	207	112	3,221

Summary of Patents Registered from 1979 to 1983

<u>Socialist Republic</u>	<u>Individuals</u>	<u>OURs</u>	<u>Institutes</u>	<u>Total</u>
Bosnia-Hercegovina	5	4	--	9
Montenegro	--	1	--	1
Croatia	43	95	11	149
Macedonia	8	3	--	11
Slovenia	35	102	27	164
Serbia	73	25	4	102
Total:	164	230	42	436

[Inset] Zenica Steelworks -- innovations in 1980 saved 40 million dinars. The originators were rewarded with over 2 million dinars.

Zenica Steelworks -- 26 technical advances in January and February 1982 saved 6.7 million dinars, and the originators were paid 165,330 dinars.

The Rade Koncar SOUR [Complex Organization of Associated Labor], the Slavenska Pozega Electrical Heating Element Factory 005 -- 65 useful suggestions submitted in the last three years saved 7,238 million dinars. The originators were paid 1.055 million dinars.

Elektrobosna in Jajce -- a new use of domestic raw materials brought an annual savings of 7 million dinars. The originators were paid 30,000 dinars.

The store steelworks -- 40 innovations that were accepted saved 17.7 million dinars. The originators were paid 1 percent of the amount saved.

The Pliva SOUR -- in the last 7 years, income was increased by 5.5 billion dinars with 105 new pharmaceutical products, 70 food products, and 40 veterinary products.

The Bor copper mine -- more than 300 innovators and rationalizers provided new solutions in the process of the production and development of parts that had been imported, and achieved an annual savings of 100 million dinars. The originators were rewarded with 2 million dinars.

Litostroji in Ljubljana -- 14 technical solutions in 1980 saved over 7 million dinars. The originators were paid 345,000 dinars.

Henteks in Skopje -- the inventions by Milojko Vranesovic applied at Henteks and Ohis earned 80 million dinars. The originator was paid 10,000 dinars.

INVESTMENTS DECLINE IN FIRST 8 MONTHS OF 1984

Belgrade EKONOMSKA POLITIKA in Serbo-Croatian 15 Oct 84 p 31

[Unsigned article: "Stagnation"]

[Text] Payments for investments in capital goods increased by 43 percent in the first 8 months of this year, and amounted to 652 billion dinars. In fact, the growth of payments was unchanged in relation to the situation at the end of July, but considerably exceeded (28 percent) the rate achieved at the end of last year. The data on payments are given in terms of value, which in view of inflation means that in real terms they have declined, admittedly at a somewhat slower pace than foreseen by economic policy for this year. The August stagnation in growth, however, although influenced to a great extent by the usual seasonal lull, provided a basis for seeing indications that investments will fall in real terms even more by the end of the year.

Payments for investments are growing at a somewhat slower pace than in July from the sources of the economy's OURs [Organizations of Associated Labor] and production SIZs [Self-Managing Interest Groups] -- by 59 percent, i.e. total of 313.3 billion dinars was paid from these sources. In this regard, the most was paid from allocated accounts, including reserve funds -- 177 billion (52 percent more), followed by transfer accounts, including those of work communities -- 143.1 billion dinars (73 percent more), and joint consumption funds -- 11.1 billion (26 percent more). The participation of all sources of the economy's OURs (and production SIZs) was the largest -- 50.8 percent, (compared to 32.5 percent in 1980).

On the other hand, the participation of the banks (in the form of credits) in total payments has been visibly reduced -- to 23.5 percent, compared to 46.6 percent in 1980, (although the growth of their payments in August was somewhat accelerated -- 9 percent), with 153.7 billion paid. The share of the banks in total payments, however, is increased to 32.8 percent, if one adds the separately stated deposits through those institutions, which amounted to 60.4 billion dinars, a full 69 percent more than last year. If one only considers the "pure" bank payments, without these intermediate deposits (153.7 billion dinars), the credits

for capital goods amount to 92.7 billion (7 percent more), credits for housing construction 44 billion (17 percent more), credits in foreign exchange 14.7 billion (11 percent more), and exchange rate differences this year 2.2 billion dinars.

The growth of payments by noneconomic organizations was accelerated in the first 8 months -- 40 percent; with 72 billion dinars, they constituted the third largest source by volume, with an 11 percent share in total payments. Finally, the SIZs for social activities (and housing) paid 25.2 billion dinars, and had a 3.8 percent share in total payments.

In regional terms, the payments for investments were increased most in Slovenia -- 71 percent (they amounted to 106.7 billion), followed by Croatia -- 48 percent (150.2 billion), Bosnia-Herzegovina -- 41 percent (103 billion), and Serbia proper -- 40 percent (154 billion). There was a more moderate increase in Vojvodina -- 32 percent (64 billion) and in Kosovo -- 23 percent (23.4 billion), and the slowest growth was in Macedonia -- 21 percent (29.3 billion) and in Montenegro -- 18 percent (21.1 billion dinars).

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